



Annual  
sustainability  
report  
**2021**



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# For readers

The 5<sup>th</sup> edition of CTG Brasil's Annual Sustainability Report transparently presents the company's challenges and achievements throughout 2021 (January 1 to December 31). Prepared annually since 2017, the document is released in the first four months of each year, and any questions, comments or suggestions about its content can be sent by email [comunicacao@ctgbr.com.br](mailto:comunicacao@ctgbr.com.br).

This report has been prepared in accordance with the GRI Standards: Core option. The information was approved by the company's Board of Directors, and only the financial performance data underwent external verification.

## Corporate information

### Board of Directors

**Chairman and CEO** | Zhao Jianqiang  
**Vice-Presidents** | Carlos Carvalho, Evandro Vasconcelos, José Renato Domingues and Yujun Liu

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### Credits

#### Overall coordination

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and Sustainability Directorate

#### Content, consulting and design

usina82

#### Materiality

BSD Consulting

#### Photography

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## How to use this document

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# Interview with the CEO

**Zhao Jianqiang**, Chairman and CEO of CTG Brasil, assesses CTG Brasil's performance in 2021 and the prospects for the diversification of the portfolio focused on clean and renewable energy

**How do you assess CTG Brasil's performance in 2021, a year once again challenging for the electricity sector in the country?**

The year 2021 started with a huge challenge for operations, because of the increase in Covid-19 cases in the country. The pandemic reached record levels in the first months and the company maintained and reinforced protocols and actions to protect the health of employees. This care was especially important to maintain the activities and modernization projects of Ilha Solteira and Jupia plants.

Subsequently, the electricity sector was severely impacted by the worst water crisis in the history of Brazil in the last 91

years. The lack of rain and the decrease in the levels of the reservoirs demanded an intense articulation with the government agencies to avoid environmental impacts with the reduction of the flow in the hydroelectric plants, mainly Jupia HPP.

In such conditions, the company's revenue generation is also severely impacted. The main factor for this is the GSF, which determines the purchase of additional energy in the short-term market to compensate for energy generation below the physical guarantee of the plants. Our commercial strategy of anticipating purchases and keeping part of the energy we generate uncontracted was fundamental to achieving positive results in 2021.





## In 2021, we became the first company in the sector in the country to certify 100% of operations in the ISO 9001, ISO 14001, ISO 45001 and ISO 55001 standards

### Why did CTG Brasil decide to invest in diversifying its generation portfolio with renewable sources?

CTG Brasil is a clean energy company focused on growth, in order to be one of the largest generators in the country. Investment in other generation sources, such as wind and solar, increases the positive impact of our business for the country.

We structured a new Executive Office for investment in this area and, in 2021, we signed the first contracts for renewable pipelines which are in the final phase of evaluation by

our headquarters. We are talking about two wind farms to be built in the Northeast and a solar plant in Minas Gerais. When completed, these assets will add 1.6 GW of power to the generation park.

One of the main advantages of these renewable sources is the complementarity with hydroelectric plants. Historically, wind generation is higher in drier periods for reservoirs. Solar energy, in turn, promotes generation during the day, when winds are less intense and demand is higher. This combination makes the energy

offer more accessible and better adapted to the consumption profile of customers.

### How has CTG Brasil strengthened the safety culture in its operations?

Our number 1 value is "we prioritize life", committed to the safety of people and assets. In 2021, the company carried out a major internal transformation of its processes with the aim of increasing and strengthening the safety culture. More than 50 improvement initiatives were designed by a multidisciplinary work group, such as the review of the procedure for assessing the criticality of tasks, with new mechanisms for controlling and mitigating risks. There was also a reformulation of the contract model and management of third parties that work in the plants, placing

more emphasis on safety criteria for the approval and contracting of these partners. And we started a plan of strategic actions that will be implemented until 2024, defined with the participation of many areas and employees from different hierarchical levels.

It is important to highlight that asset management is carried out in an integrated manner. In addition to safety aspects, the company seeks excellence in quality, environmental and asset management. In November 2021, CTG Brasil became the first Brazilian company in the electricity sector to certify 100% of its operations in ISO 9001 (quality), ISO 14001 (environment), ISO 45001 (health and safety) and ISO 55001 (asset management), a great satisfaction for all.

## We have defined our 2030 ESG goals and objectives on seven priority themes, including having a leading role on climate change and energy transition

### How has the company worked to strengthen its commitment to sustainability?

CTG Brasil will reach a new level in sustainability management. In 2021, the company carried out a study to assess the level of maturity in dealing with environmental, social and corporate governance issues – the ESG. With this work, we identified seven priority themes and established our ambition and objectives, which were broken down into a series of indicators and commitments to advance management maturity.

One of the main ambitions is related to climate change and energy transition. By 2030, we want to have a leading role on this front, helping to increase access to clean and renewable energy.

The sustainability strategy reinforces CTG Brasil's commitment to collaborate with the achievement of the Sustainable Development Goals (SDG), proposed by the United Nations (UN), and to incorporate the universal principles of the Global Compact of respect for human rights, promotion of decent work, preservation of the environment and fight against corruption.

### Last but not least, what were CTG Brasil's main advances in the area of innovation and research?

CTG Brasil's innovation investment strategy is more connected to the key themes and areas of interest in the corporate growth strategy. The focus is on the development of projects

aimed at portfolio diversification and the complementarity of generation sources. In 2021 alone, investments in innovation totaled R\$ 23.8 million, exceeding the regulatory obligation by 46%.

One of the main projects that the company is ahead is the development of green hydrogen as an energy alternative to replace fossil fuels. We created the Green Hydrogen Strategic Mission, the largest public call ever held in

Brazil for partners with innovation projects in this area. The public notice received applications from 31 projects, from 13 different states, and 3 were chosen to be supported and executed within 36 months.

With this positioning, CTG Brasil will contribute to developing an investment pipeline in green hydrogen and creating a more organic dynamic with this innovation ecosystem, driving the transition to a cleaner and renewable energy matrix.



# Excellence in integrated management

CTG Brasil is the first company in the Brazilian electricity sector to certify 100% of its operations in the ISO 9001 (quality), 14001 (environment), 45001 (health and safety) and 55001 (asset management) standards. The achievement attained in November 2021 places the company at a select level of excellence in its Integrated Management System (SGI), attested by the certification in these standards.

The seal covers the 14 operating units, in addition to corporate processes related to operation, maintenance and administration for electricity generation. The most evident gains are in the adoption of the best market practices, focus on continuous improvement and standardization of processes and procedures among all plants. With this approach, the company ensures the application of the Precautionary Principle in its activities, mitigating risks and monitoring all possible impacts associated with energy generation.



To get here, a broad effort was needed in recent years, involving more than 350 employees. The first step was the creation of the PMS (Production Management System), in partnership with colleagues from CTG Corp. At that moment, the procedures of the newly acquired plants were reviewed and aligned, creating a CTG Brasil management standard that brought together the best practices of the subsidiaries and the Chinese parent company.

Certification in ISO standards began in 2020 and was completed in 2021. In the first year, the two small hydroelectric plants (SHPs) and ten hydroelectric plants (HPP) in the company's generating complex were certified in ISOs 9001, 14001 and 45001. More recently, it was the turn of Ilha Solteira and Jupia HPPs to undergo verification in these three standards, in a process that also included the certification of the 14 units of CTG Brasil in ISO 55001.



**Trajectory for the certification of plants**

**2019**

PMS dissemination

**2020**

ISOs 9001, 14001 and 45001 for 12 units

**2021**

100% of the generating farm certified in ISOs 9001, 14001, 45001 and 55001



# Focus on operational efficiency

At CTG Brasil plants, the main objective of equipment maintenance and operation planning is operational efficiency. Annually, the teams assess investment needs and schedule periodic preventive maintenance, in addition to prioritizing modernization initiatives. The maintenance schedule still needs to be aligned with the National System Operator (ONS), responsible for determining the dispatch of the plants throughout the country.

With this model of organization of the National Interconnected System (SIN), in which a government authority determines when each plant in the country must generate energy, the role of generation companies is to keep the assets available for this activation. The indicator used by the sector to measure the efficiency of companies in this aspect is the availability index. The National Electric Energy Agency (Aneel) determines minimum levels of this index for each plant, and a performance below this limit can even cause fines to generators.

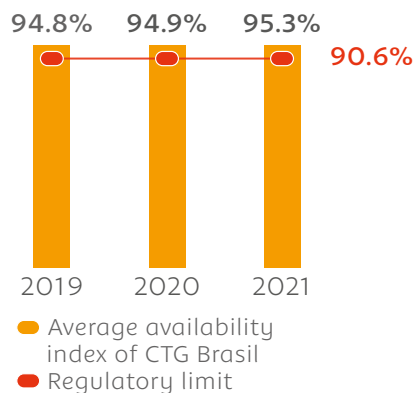
With assertiveness in planning preventive maintenance, CTG Brasil has maintained the plants at high levels of availability





CTG Brasil has been improving the availability rate of the plants in recent years, driven by the standardization of procedures, the certification of the Integrated Management System (SGI) and investments in maintenance and modernization. In 2021, some factors impacted the performance of the plants in this regard. Broadly, the context of the pandemic and the water crisis demanded the postponement and optimization of maintenance and modernization interventions, due to social distancing measures. At the Jupia and Salto Grande HPPs, performance was affected by the accumulation of macrophyte banks—aquatic plants that can damage equipment when passing through the turbines—requiring emergency shutdown of generating units. Despite this, there was a significant increase in the availability index of the plants.

**Availability index\***



\*The availability index is calculated using the TEIP and the TEIFa (equivalent rates of scheduled and forced unavailability, respectively, considering 60 calculated monthly values, relating to the months immediately prior to the current month). Its calculation formula is:  $ID = (1 - TEIP) * (1 - TEIFa)$ . The values refer to the month of December each year.



Availability index\*

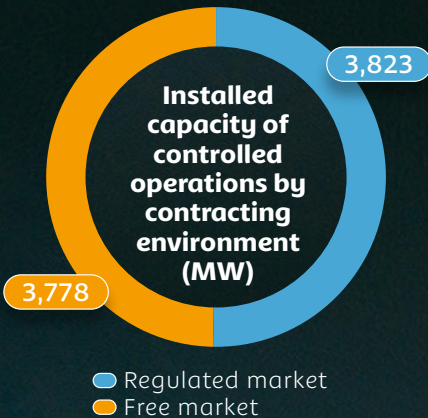
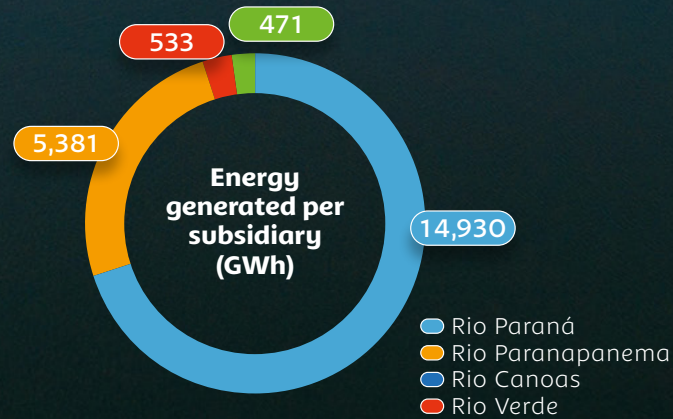
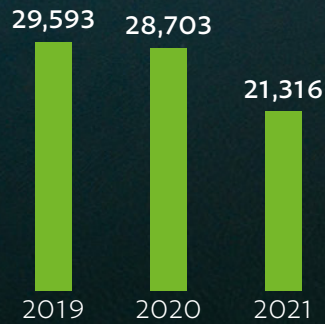




### Power generation

The context of the water crisis led the ONS to reduce the dispatches of hydroelectric plants in the country and increase the activation of thermoelectric plants. Therefore, the energy generated by CTG Brasil in 2021 was 25.7% lower in the year, totaling 21,300 GWh.

#### Energy generated (GWh)



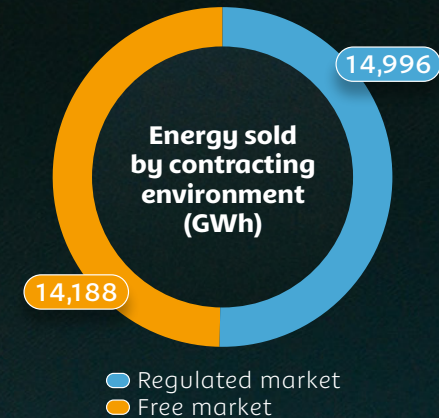
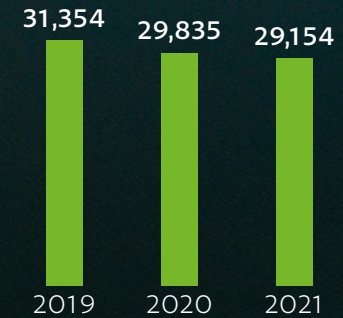
**8.3 GW** is the installed capacity of CTG Brasil, which represents **5%** of the country's electricity generating farm\*

\*Considers 7.6 GW of plants directly controlled and interests in assets not managed by CTG Brasil.

### Trading

The sale of energy generated by the plants takes place in the regulated and free markets, in accordance with the concession agreements of each subsidiary of CTG Brasil. In 2021, 29,200 GWh were sold, a volume 2.3% lower than in the previous year.

#### Energy sold (GWh)



# CTG Brasil operations

## Directly controlled hydropower plants (HPPs)

- 1 **Salto HPP** • 116 MW • Operated by Rio Verde
- 2 **Jupiá HPP** • 1,551.2 MW • Operated by Rio Paraná
- 3 **Ilha Solteira HPP** • 3,444 MW • Operated by Rio Paraná
- 4 **Rosana HPP** • 354 MW • Operated by Rio Paranapanema
- 5 **Taquaruçu HPP** • 525 MW • Operated by Rio Paranapanema
- 6 **Capivara HPP** • 643 MW • Operated by Rio Paranapanema
- 7 **Canoas I HPP** • 82.5 MW • Operated by Rio Paranapanema
- 8 **Canoas II HPP** • 72 MW • Operated by Rio Paranapanema
- 9 **Salto Grande HPP** • 73.8 MW • Operated by Rio Paranapanema
- 10 **Chavantes HPP** • 414 MW • Operated by Rio Paranapanema
- 11 **Jurumirim HPP** • 100.9 MW • Operated by Rio Paranapanema
- 12 **Garibaldi HPP** • 191.9 MW • Operated by Rio Canoas

## Small Hydropower Plants (SHPs)

- 13 **Palmeiras SHP** • 16.5 MW • Operated by Sapucaí-Mirim, controlled by Rio Paranapanema
- 14 **Reitor SHP** • 16 MW • Operated by Sapucaí-Mirim, controlled by Rio Paranapanema

## Hydropower plants (HPPs) with equity participation

- 15 **Cachoeira Caldeirão HPP** • 219 MW  
CTG Brasil shareholding • 50%
- 16 **Santo Antônio do Jari HPP** • 392.95 MW  
CTG Brasil shareholding • 50%
- 17 **São Manoel HPP** • 735.84 MW  
CTG Brasil shareholding • 33.33%



## Wind farms with equity participation

CTG Brasil shareholding • 49%

- 18 **Aroeira, Jericó, Umbuzeiros and Aventura I Wind Farms** • 126.9 MW
- 19 **Baixa do Feijão I, II, III and IV Wind Farms** • 120 MW
- 20 **Horizonte Wind Farm** • 4.8 MW
- 21 **Água Doce Wind Farm** • 9 MW
- 22 **Tramandaí Wind Farm** • 70 MW

*In each plant, the respective installed capacity is identified.*



# Modernization project

At the Ilha Solteira and Jupia hydroelectric plants (HPP), the initiative to renovate and modernize the 34 generating units advanced throughout the year in its second phase. This stage comprises eight generating units. Five pieces of equipment had already been modernized in 2019 and 2020—in the last year, three units completed this process. In 2021, the replacement of 60 current transformers was also initiated. Until 2038, R\$ 3 billion will be invested in this, which is the largest modernization project in the electricity sector.

Considering only 2021, investments in this initiative totalled R\$ 122.8 million.

The contract also includes the construction of a new Generation Operations Center (COG) at Ilha Solteira HPP, which should be completed in 2022. Since March 2022, the new COG has been operating in the testing phase so that it can replace the current structure of monitoring and remote operation of assets, composed of COGs at Chavantes and Jupia HPPs.

Other relevant investments in CTG Brasil's plants promote the periodic updating of the equipment and technologies used, totalling R\$ 20.9 million invested last year. Among them, the replacement of current transformers at the Ilha Solteira HPP, with investments of R\$ 9 million, and projects for the replacement of transformers and equipment at the Rosana, Taquaruçu, Garibaldi and Salto HPPs, were worthy of note.



# Sustainability strategy

In 2021, CTG Brasil conducted a study of the maturity of its management on aspects of corporate sustainability that culminated in the definition of short, medium and long-term objectives and goals. With this, the company has a clear outline of how to evolve and in which key themes to elevate its practices to the best levels.

The evaluation considered a methodology widely used in the market and validated by the academic universe proposed by Simon Zadek, which establishes five levels of maturity in business management. Key areas of the company were engaged in workshops to discuss the main sustainability issues related to CTG Brasil's business. Based on these analyses, the company's current stage and the ambition to evolve for each theme were defined.



The themes considered in the study were grouped into seven themes in the three pillars of the ESG (the environmental, social and governance tripod). For each of them, CTG Brasil has defined a series of commitments and indicators that will allow progress in management maturity. Among them,

the commitment to leadership in the area of climate change and energy transition stands out. The broader objectives consider the time horizons of 2023 and 2030, and a set of targets support the monitoring of this evolution. Part of this set are the so-called essential goals, which will allow a level improvement in the maturity levels of the methodology. Approved by the Executive Committee and the Advisory Board, these goals will be disclosed internally throughout the year to all the company's employees.

## CTG Brasil's sustainability strategy highlights the maturing of the company's ESG journey, with goals for 2023 to 2030

### CTG Brasil's ESG Strategic Objectives

#### KEY THEMES:

Climate change and energy transition

Impacts on water resources

Preservation of biodiversity

Safe, healthy and diverse work environment

Impact and local development

Corporate governance

Sustainable value chain

#### By 2023:

- Reach the managerial level in all topics

#### By 2030:

- Achieve a leading role in climate change and raise three other issues to the strategic level

### Continuous evolution

Since 2017, the company has been a signatory of the Global Compact and has its Sustainability Policy. In 2020, this Policy was revised and three Sustainable Development Goals (SDGs) were defined as priorities: 7 – Affordable and clean energy; 8 – Decent work and economic growth; and 15 – Life on land.



In a complementary way, CTG Brasil has been conducting materiality processes since 2017, with extensive consultation with its stakeholders to identify key issues for accountability and corporate management (learn more on page 64). The evolution trajectory also includes initiatives for the formation of an internal culture on the subject, such as the inclusion of the Sustainability Trail in the CTG Academy, since 2020. Considering only the year 2021, 296 views of the content of this Trail were recorded.



# Good governance practices

In order to align itself with the best market practices, CTG Brasil has been working on the evolution of its corporate governance model. To this end, the company will begin the transformation of its legal form from a limited liability company to a joint stock company, which means voluntarily assuming a set of additional decision-making and accountability obligations.

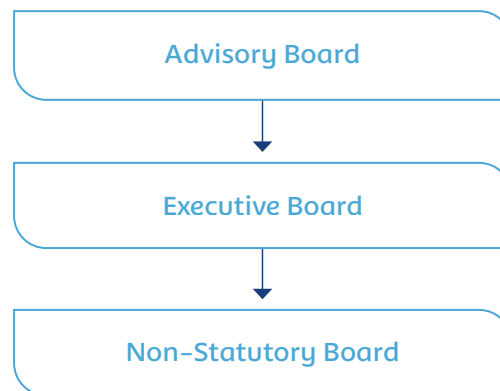
The migration to a corporation will involve the creation of a Board of Directors, which will replace the current Advisory Board (ABM – Advisory Board Meeting) and will have the support of advisory committees. Currently, the ABM is the highest governance body of CTG Brasil and has an independent director.

Within the scope of senior management, the Executive Committee (EBM – Executive Board Meeting) brings together the company's CEO and vice-presidents and is responsible for conducting business.

CTG Brasil's subsidiaries are incorporated as corporations and have their own governance structures. Rio Verde and Rio Canoas have more simplified models, compatible with their size and performance.

At Rio Paranapanema, whose shares are listed on B3 (the São Paulo stock exchange), the Board of Directors is advised by the Commercial Strategic Committee, and a non-permanent Fiscal Council completes the structure. In the case of Rio Paraná, it is worth mentioning the registration in category B of the Securities and Exchange Commission (CVM), obtained in 2021, which expanded accountability mechanisms and facilitated access to qualified investment markets.

## Governance structure of CTG Brasil



# Commitment to ethics

CTG Brasil's Compliance Program advanced on several fronts throughout 2021 to strengthen a culture of compliance both internally and in the company's value chain. The program is structured around five pillars — communication, training, due diligence, the Ethics Line and processes to comply with the General Law for the Protection of Personal Data (LGPD)—and aims to ensure the application of the Code of Ethics and Conduct in the daily lives of all the areas. The initiatives implemented complement each other with this objective, improving the mechanisms for monitoring, training, communicating and managing the topic corporately. Discover the main highlights.

## Contract evaluation

The criteria for conducting due diligence on suppliers were revised in the last year. This document analysis verifies the partners' compliance with legislation and risks related to corruption, among other aspects. Until 2020, it was only carried out with the winning partners of the bids that exceeded an internally defined base value. As of 2021, the eligibility criteria were revised, including contracts with a sensitive scope (such as those involving relationships with

public officials) regardless of the value they represent. The three finalists of each event were also verified, not just the winner. As a result, the company expands its positive impact on compliance in its value chain.

This type of analysis is one of the measures to mitigate compliance risks

in operations and in the value chain. Another relevant practice is the inclusion of specific clauses in contracts related to environmental and human rights aspects, prohibiting any form of degrading, child, forced or slave-like labor. In 100% of significant contracts this type of clause is mandatory.

**1,530** due diligence assessments carried out, **69%** more than in the previous year





## Trainings

All employees undergo annual training within the scope of the Compliance Program. In 2021, the training focused on the General Data Protection Law (LGPD) and on the care that each employee should take when handling personal information. Moreover, every two years the training is focused on the Code of Ethics and Business Conduct and covers 100% of the staff and members of the Advisory Board.

A novelty of the year was the application of training on the Code of Ethics and Conduct to 99 suppliers. This first group was selected based on criteria related to the nature of the

contract, with priority being given to critical partners for aspects of health and safety, the environment and relations with public agents. The action strengthens the commitment to ethical conduct in the value chain and should be extended to other groups of partners in the coming years.

## Perception research

The Annual Compliance Check was reformulated last year, consolidating a new format, the Compliance Leadership Engagement Diagnosis (C-LED). Through a questionnaire, all leaders contribute their individual perceptions about the maturity and effectiveness of the Compliance Program in three spheres: processes and procedures; people; and work environment. The results help guide actions to improve the Program each year.

100% of professionals were trained in LGPD in 2021





## Channel for guidance and complaints

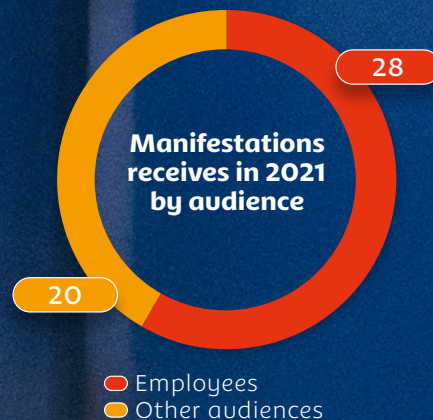
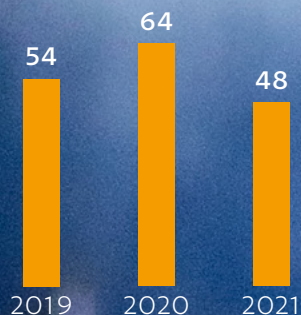
The good management practices of the Ethics Line demonstrate the maturity in the use of the channel. Available online and by calling 0800, the Ethics Line is managed by an independent third-party company and is widely publicized to the company's audiences, including training for employees and suppliers. The channel allows the submission of anonymous reports and guarantees both the confidentiality of information and non-retaliation to protesters.

In 2021, the Ethics Line received 48 manifestations. Among the complaints reported on the channel, none were related to corruption issues.

### How to access the Ethics Line

[www.contatoseguro.com.br/ctgbr](http://www.contatoseguro.com.br/ctgbr)  
0800 601 6888  
24 hours a day, every day  
Languages: Portuguese and English

Manifestations received by the Ethics Line





# Posts

- Risk management
- Supply chain
- Open dialogue



## Risk management

CTG Brasil strengthened its risk management model throughout 2021, improving the incorporation of this vision into the routine of all areas and approving, within the scope of the Advisory Board, its Corporate Risk Management Policy. Established in the previous year, this model covers 22 risks identified in six categories, which are monitored by the respective areas associated with each of them.

These risks were prioritized according to a ruler of impact (in six dimensions) and

probability (according to the possibility of their occurrence). The consolidation of all this analysis is the CTG Brasil risk map, called the Heat Map and approved by the company's Executive Committee.

In 2022, this map will undergo revision, in a periodic process of improvement. In this context, the quantification of risks, the clearer incorporation of the theme of climate change and the alignment with the structure of internal controls are among the priorities.

## Supply chain



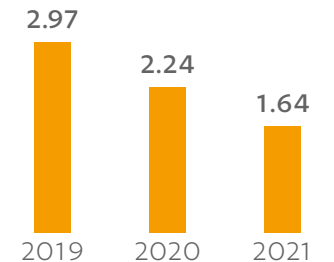
CTG Brasil prioritizes whenever possible partners close to its plants, as a way to improve the relationship with the communities. It also maintains permanent contracts with large companies that own technology and are able to supply state-of-the-art equipment and parts.

region, followed by the Midwest and South regions. Contracts were signed with 2,447 suppliers, totaling R\$ 1.6 billion in expenditures. The reduction in this amount in recent years is a reflection, among other factors, of the pandemic context.

In addition to materials for the operation and maintenance of the plants, the main purchase categories include the provision of services (preventive and corrective maintenance of equipment and machines, surveillance, reception, concierge, transportation of employees, cleaning etc.).

In 2021, the largest share of supply negotiations was concentrated in the Southeast

**Expenditures with suppliers (R\$ billion)**



## Open dialogue

The maintenance of CTG Brasil's channels for engagement with its various stakeholders is one of the company's operating premises. Through this continuous dialogue, the different areas are able to capture the demands and interests of the audiences, strengthening transparency and promoting management improvements that meet the expectations of employees, customers, communities, suppliers, government and other stakeholders. In addition, the company periodically conducts surveys and consultations aimed at its audiences, such as materiality processes.



### Internal channels

#### • Town Hall

Quarterly CEO meeting with the entire internal public to share highlights and priorities

#### • Near miss!

Channel for reporting unsafe working conditions

#### • Daily Security Dialogue

Management ritual in which teams talk about the importance of safe work

### Channels aimed at the public around the plants

#### • Espaço Legal

Environmental awareness and education actions

#### • Telecheia

24-hour telephone service about the level of reservoirs and river flow

#### • Operation System in Emergency Situations (SOSEm)

Disclosure of aspects related to reservoir safety (via meetings, radio campaign, news portals and social networks)

#### • Meetings of the Emergency Action Plan (PAE)

Promoted with the City Hall and the Civil Defense of the municipalities to discuss actions in the scope of dam safety

#### • Environment 0800

Service for compliments, complaints or doubts about the environmental actions carried out by CTG Brasil in the surroundings of the hydroelectric plants on the Paraná and Rio Paranapanemas

### Institutional channels

#### • Contact us

Receives any type of demand from the public by e-mail [ctgbr@ctgbr.com.br](mailto:ctgbr@ctgbr.com.br), published on the institutional website of CTG Brasil

#### • Supplier Space

Available on the website, it establishes a direct channel for sending information to CTG Brasil partners

#### • Ethics Line

Channel for reporting ethical deviations, also accessible on the company's website

#### • Social media

Profiles on the main networks – LinkedIn, Instagram, Facebook and YouTube – allow for dynamic and routine interaction with civil society



# New projects in renewable energy

CTG Brasil's strategy of expanding its generation portfolio in renewable sources began to become a reality in 2021. The company structured a Board of Directors for the development of projects in this area and signed contracts for the purchase of wind energy resources in the Northeast region of Brazil. Brazil (Serra das Palmeiras and Dom Inocêncio Sul) and for the purchase of solar resources in the state of Minas Gerais (Arinos). These contracts are in the final stage of investment evaluation by the company's headquarters in China.

The future wind farms Serra das Palmeiras and Dom Inocêncio Sul are located, respectively, in the states of Paraíba and Bahia, both

with planned installed capacities of 600 MW each. The Arinos solar complex will be installed in Minas Gerais, with a capacity of 410 MW<sub>peak</sub>. Together, they will add another 1.6 GW of power to the company's generating farm (totaling 9.9 GW).

The new assets will be built by the company in the coming years, after the closing of the transactions for the purchase of resources, engineering planning, equipment purchases and the final decision to start construction by CTG Brasil. This type of project is called greenfield, when the buyer takes over the construction of the projects. The complete start-up of the parks is scheduled for 2025 and 2026, in line with the projected energy demand from customers.

This diversification was calculated to expand the offer of renewable energy and gain from the so-called “portfolio effect”, making the offer of electricity more accessible and better adjusted to the consumption profile of customers. This is because the hydro, wind and solar sources are complementary in the times and months of generation.

In the case of hydroelectric plants, the rainy season in the first semester is the most favorable for generation, while, for wind power plants, the winds are more intense in the second semester. Similarly, throughout the day, solar complexes complement wind farms, which generally have a reduction in generation in the afternoon.

The wind and solar resources acquired by CTG Brasil in 2021 will help to balance the company's energy generation profile with customer consumption, with time and seasonal diversification



### Incentive for new renewable ventures

In order to promote investments in new clean energy generation assets, Brazil has a federal program to subsidize the tariffs for the use of transmission and distribution systems. This public policy was created in 2002 as a response to the blackout experienced by the country in the previous year, in which scheduled power outages were necessary to prevent the collapse of the electrical system.

In March 2021, the federal government sanctioned a rule that set a deadline for the validity of subsidies. This is Law No. 14,120, resulting from a Provisional Measure (998) issued in September of the previous year. Only new renewable energy projects that requested a grant from

until February 2022 and that enter into commercial operation up to 48 months after the date of the respective grant will be eligible for the incentives.

This context became known in the market as the “subsidy window” and generated a movement in the market as a whole to close new projects and take advantage of public policy incentives. CTG Brasil also had its appetite for investments driven by the competitiveness of taking advantage of this window, which accelerated the signing of new contracts. Even so, the company intends to continue investing in the expansion of the portfolio after the incentive period and has been planning and evaluating opportunities for new acquisitions in 2022 and in the coming years.





The new Renewable Energy Department already has more than 30 professionals, focused on project evaluation and construction planning

### Dedicated team

The evaluation of the opportunities for acquiring resources and the planning of new projects required the structuring of a team focused on Renewable Energies at CTG Brasil. The new structure was defined in January 2021 and already has more than 30 professionals. Throughout the year, this team worked together with the Business Development area to select the best resources available and to establish partnerships with developers. For 2022, the priority is the development of technical projects and the planning of works, which are scheduled to start in 2023.

CTG Brasil has established a multidisciplinary engineering area formed by some of the best professionals in the market. Given the scale of the projects and the international cooperation of the CTG Group, this engineering team is making improvements and bringing best practices to gains in generation efficiency and reliability. To favor the integration of new employees into the CTG Brasil culture, the team was also made up of people from other areas of the company.



## Facing the water crisis

In 2021, Brazil went through an unprecedented hydrological scenario: the worst level since the beginning of measurements, 91 years ago. With different factors for the dramatic combination of the period and implications for the multiple use of reservoirs and value chains, the water crisis took center stage in the social debate and discussions in the sector.

From the beginning, CTG Brasil adopted a posture of collaboration and responsibility to manage the impacts of the water crisis on its business

and contribute with measures that alleviate the National Interconnected System (SIN) as a whole. Corporately, a Crisis Committee was set up to discuss the measures to be taken, formed by representatives from different areas who jointly evaluated the demands of the Ministry of Mines and Energy (MME), the National Electric Energy Agency (Aneel), the Operator System (ONS) and the National Water and Sanitation Agency (ANA).

The Ilha Solteira and Jupia hydroelectric plants (HPP) in particular played a

central role in these discussions. For the Jupia operation, CTG Brasil articulated throughout the year with the competent authorities a responsible way to gradually reduce the water flow. The most urgent government demand was to reduce the amount of water that passed through the plant, forming a barrier that would contribute to the recovery of other reservoirs in the Southeast. On the side of CTG Brasil, the concern was that this measure would not generate environmental impacts downstream of the plant.

Dialogue, planning and investments allowed CTG Brasil to act responsibly and contribute to mitigating the impacts of the worst hydrological scenario in the last 91 years



## Actions to manage the impacts of the water crisis at UHE Jupia

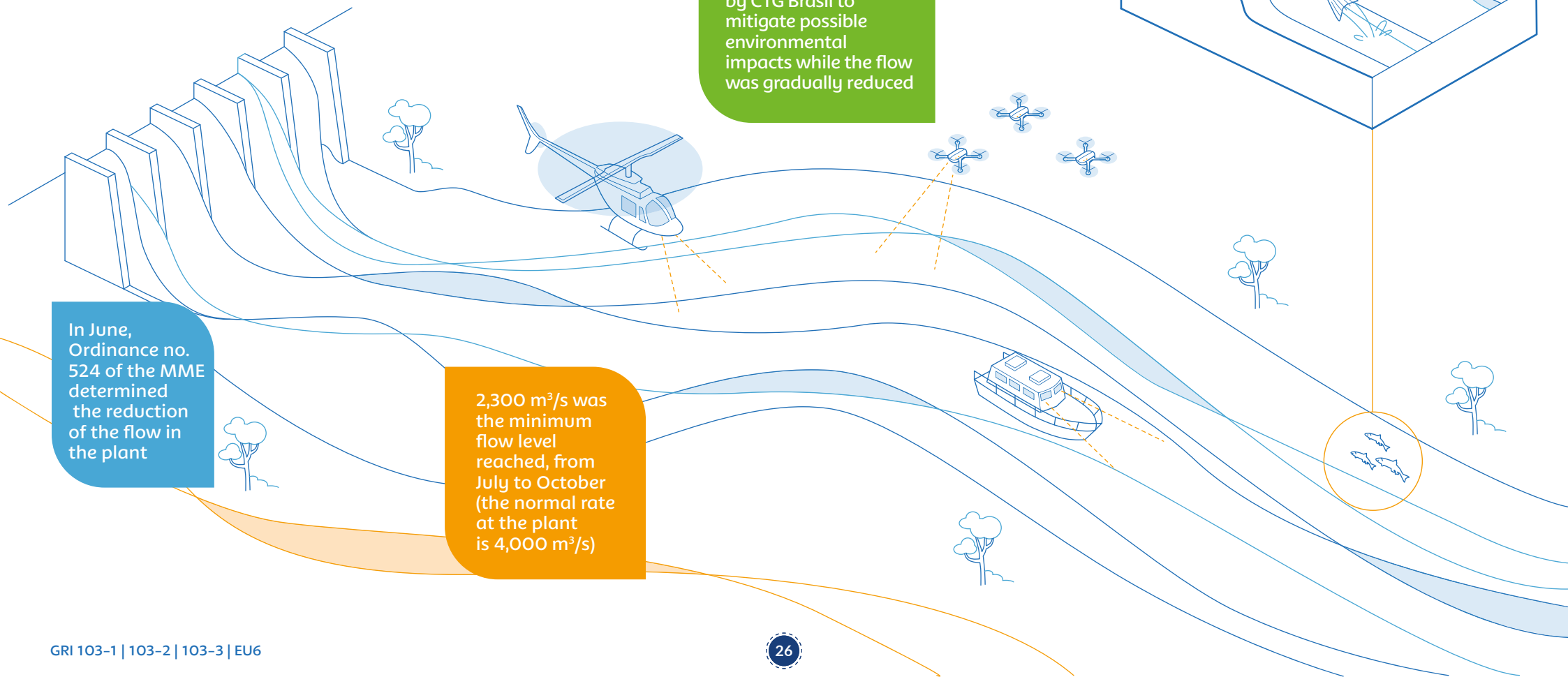
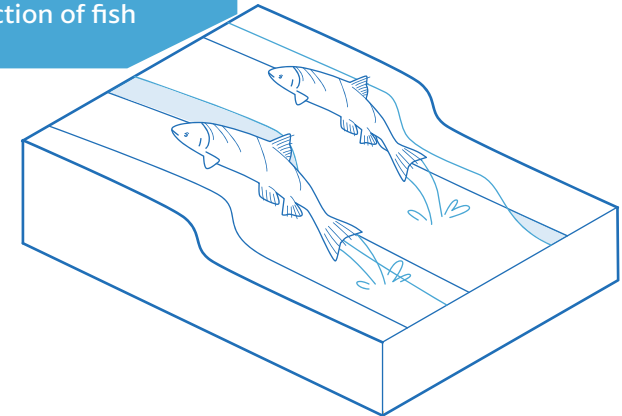
The company held meetings with the authorities and sent more than 80 letters throughout the year, transparently discussing alternatives to resolve the impasse. All measures were monitored by the regulators involved, always aligned with Ibama (learn more in the diagram). As a result, the company was able to contribute to the safety of the Southeast's reservoirs and had no significant impact on the environment.

In November, the flow was increased again, to 3,300 m<sup>3</sup>/s, so that there would be no impact on the spawning season, which is essential for the migration and reproduction of fish

More than 10 pieces of equipment, including helicopters, drones and boats, were used by CTG Brasil to mitigate possible environmental impacts while the flow was gradually reduced

In June, Ordinance no. 524 of the MME determined the reduction of the flow in the plant

2,300 m<sup>3</sup>/s was the minimum flow level reached, from July to October (the normal rate at the plant is 4,000 m<sup>3</sup>/s)



During the second semester, the Rosana and Jurumirim HPPs also had reductions in their flow levels. In these units, the dialogue and trust already established with the local communities proved to be important in the management of the water crisis. Among the initiatives to open dialogue with the community is the participation of CTG Brasil in the Rio Paranapanema Crisis Room, established by ANA.

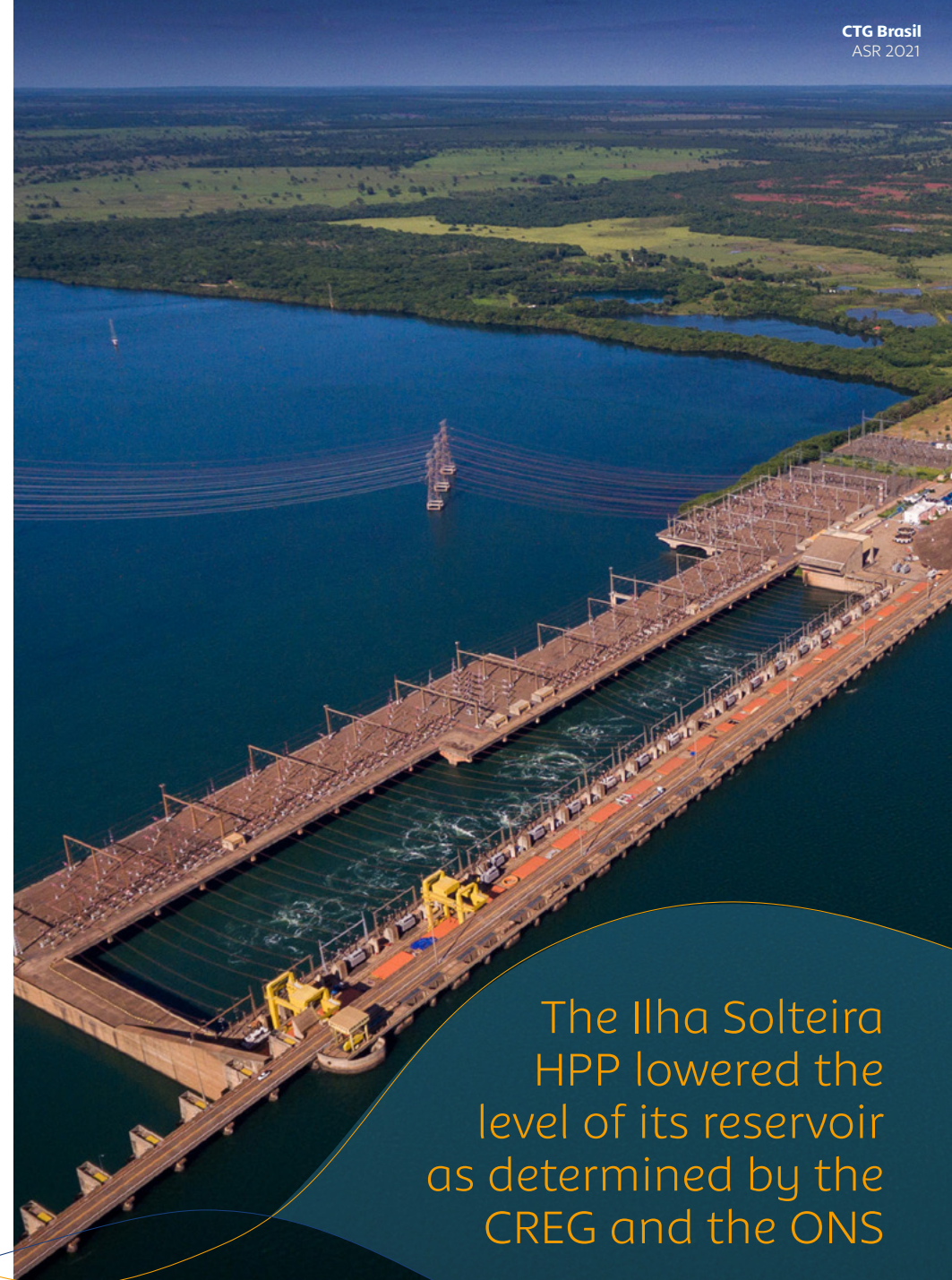
At the Ilha Solteira HPP, the main impact of the water crisis was related to the level of the reservoir. Since 2016, the plant has had an ANA grant that establishes a minimum of 325.4 meters for the reservoir. This condition is essential for the availability of the Pereira Barreto Channel, connected to the Ilha Solteira HPP and which allows the traffic of vessels between the Paraná and Tietê rivers.

The sensitive condition of the plant at the end of the year was the result of a set of orders determined by the ONS in conjunction with regulations of the Chamber of Exceptional Rules for Hydroenergetic Management (CREG). Formed by representatives of different

ministries of the federal government, the CREG was in force from June to November and determined extreme measures to manage the context of the water crisis throughout the system, overriding previous rules.

Among the measures established by CREG was the release to reduce the levels of reservoirs in the country to the operative minimum foreseen in the project, in the case of the Ilha Solteira HPP, of 314 meters. In view of this regulation, the ONS determined orders that took the Ilha Solteira HPP reservoir to a level of 319 meters at the end of November. In December, with the extinction of CREG, the plant's condition created an impasse with ANA, which required compliance with the grant.

The resolution came through the signing of a tripartite Term of Commitment, between CTG Brasil, ONS and ANA. In the document, the parties agreed on a series of measures to restore the reservoir level to 325.4 meters by May 2022, in addition to mitigation and compensation actions to be implemented by that date.



The Ilha Solteira HPP lowered the level of its reservoir as determined by the CREG and the ONS



## The water crisis affected GSF and energy prices in the short term, demanding discipline and agility from the Commercialization teams

### Financial impact

The water crisis also required portfolio management measures and additional energy purchase costs. The main factor to understand this financial dynamics of hydrological risk management is the Generation Scaling Factor (GSF). When the GSF for a given month is low (learn more in the next page), generation companies need to buy energy in the short-term to make up the difference. In the case of CTG Brasil, this sector dynamics required the disbursement of R\$ 1.3 million for the purchase of energy in the year.

The financial impact was minimized by the proactive action of the sales teams. Two strategies were the main ones for this hydrological risk management. On one hand, CTG Brasil kept a portion

of the energy from its uncontracted plants. This means selling less energy than expected to be generated, in order to have a portion available internally to replace months with low GSF.

Another protection approach was the advance purchase of energy. In this context, the quality of weather and market forecasts made the difference. When forecasting an even more critical period of the water crisis for the second half of the year, CTG Brasil carried out, in early 2021, energy purchases for the period. When the time came to supplement the GSF portion, the company already had contracts with shorter terms than those being practiced by the market.



## How does the GSF work?

**1**

In Brazil, all plants that are centrally operated by the ONS are enrolled in the Energy Reallocation Mechanism (MRE).

**2**

Every month, all the energy generated by the plants that make up the MRE is accounted for. This national vision is essential for the ONS to plan dispatches in the best possible way, prioritizing the security of the system as a whole.

**3**

This generation is compared with the physical guarantee of the set of plants that make up the MRE. This physical guarantee is a minimum amount provided for in the concession contract to which each plant is committed, normally well below the installed capacity.

**4**

The ratio between the generated energy and the physical guarantee is called the Generation Scaling Factor (GSF). When the GSF is less than 1—that is, all the energy generated in the country was less than the physical guarantee committed by the plants—all generation units in the system are penalized.

**5**

In these situations, all companies that are part of the MRE need to buy energy in the short term to make up the difference. And that has additional costs for generators.





# Financial strength and resilience

CTG Brasil ended 2021 with financial results very close to what had been forecast in the budget for the year. Faced with a period with so many challenges—water crisis, exchange rate instability, escalating inflation and the second wave of the pandemic—the performance close to expectations is, in itself, an achievement. And the secret to this performance comes from the discipline of the teams in budget management, the effectiveness of the portfolio strategy (learn more on page 25) and the management of clients to guarantee 100% performance of contracts.

The adoption of the Zero-Based Budget (OBZ) methodology for the 2021 forecast, the very close monitoring of expenses and projections and the strengthening of the corporate culture of budget management by each of the areas were fundamental in this performance. According to a benchmarking study commissioned by CTG Brasil from a specialized consultancy, the company is currently among the three best in the sector in cost management—and the ambition is to advance to the top of the ranking in the coming years. Expenditures in the year were 10% below the budget and, in absolute values (called nominal values), were lower than in the previous period.

NET OPERATING REVENUE  
**R\$ 6.3 billion**  
in 2021

↑ Increase of **20.1%**

OPERATING COSTS AND EXPENSES  
**R\$ 2.8 billion**  
in 2021

↑ Increase of **134.0%**

EBITDA  
**R\$ 4.2 billion**  
in 2021

↓ Reduction of **9.5%**

NET PROFIT  
**R\$ 1.7 billion**  
in 2021

↓ Reduction of **2.0%**

## Added value distribution – main lines (R\$ million)

	2021	2020	2019
Personnel	242.9	227.7	225.8
Taxes, fees and contributions	708.0	855.0	367.3
Compensation of third-party capital	2,042.8	2,493.6	1,726.3
Equity compensation	1,787.9	1,813.0	1,118.2
<b>Total distributed</b>	<b>4,781.6</b>	<b>5,389.3</b>	<b>3,437.6</b>



Click here and learn more about CTG Brasil's financial results in the company's Financial Statements



## Investments and leverage

In 2021, CTG Brasil raised R\$ 1.3 billion in debentures on the financial market. The operations were carried out by the subsidiaries Rio Paraná and Rio Paranapanema and contributed to lengthening and improving the company's indebtedness profile. Furthermore, in the case of Rio Paraná, part of the resources were used to finance the project to modernize the Ilha Solteira and Jupia plants.

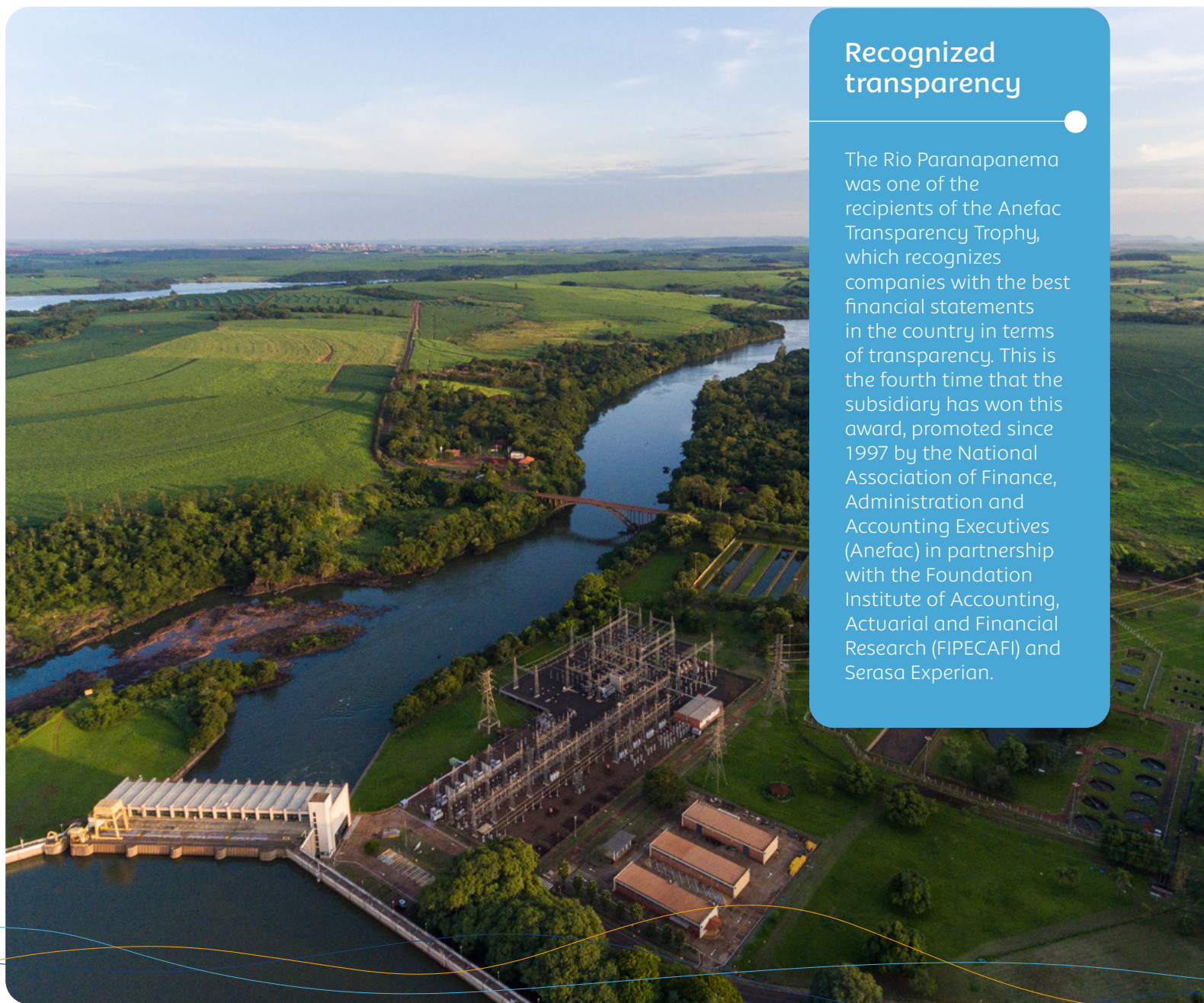
New funding should take place in the coming years to finance the construction of wind farms and solar complexes, in line with CTG Brasil's growth strategy in Renewables (learn more on page 22). On this front, the company foresees investments of around R\$ 11 billion, of which half should be raised with market agents.

### R\$ 25 billion

- has already been invested by CTG Brasil since its creation

## Recognized transparency

The Rio Paranapanema was one of the recipients of the Anefac Transparency Trophy, which recognizes companies with the best financial statements in the country in terms of transparency. This is the fourth time that the subsidiary has won this award, promoted since 1997 by the National Association of Finance, Administration and Accounting Executives (Anefac) in partnership with the Foundation Institute of Accounting, Actuarial and Financial Research (FIPECAFI) and Serasa Experian.





# Posts

- CTG Conecta
- CTG Brasil Trading
- GSF Agreement



## Dynamism in business contacts

Launched in June 2021, the digital platform CTG Conecta streamlines the monitoring, by customers, of the energy purchase contracts signed with CTG Brasil. The virtual environment can be accessed with a login and password and gathers information about current contracts and relationship history with the company. There, it is also possible to contact the commercial team for new proposals and questions. The platform launch campaign included, in addition to communications to customers and prospects, activations on CTG Brasil's social networks and sponsored content in the Valor Econômico and Canal Energia press vehicles. The platform is one of the innovation projects developed within the scope of the Digital Innovation Lab (learn more on page 39) and represents a first step towards boosting online service, preparing CTG Brasil for the growth of the free energy market.

## New frontiers in trading

CTG Brasil Trading completed its first year of operations, fulfilling the objective of improving CTG Brasil's practices in the marketing segment. The team for climate and market analysis contributed to the improvement of scenario forecasts. In addition to the projections for the coming days and weeks that were already made regularly, the teams started to develop future price estimates for the medium term (from 6 to 12 months) updated on a weekly basis. These studies contribute to the management of the portfolio with more agility and

assertiveness, mitigating exposure to hydrological risk and other factors in the short term.

Complementarily, the counterparty risk management and credit analysis practices already adopted for captive clients were incorporated to optimize the trading client portfolio. Faced with a challenging scenario due to the instability generated by the water crisis and macroeconomic conditions, the subsidiary won the marks of 108 clients served and 8,770 GWh of energy sold.







## Approval of the GSF Agreement

Putting an end to the renegotiation of hydrological risk, the GSF Agreement, one of the main regulatory milestones for 2020, was concluded and ratified for CTG Brasil's subsidiaries in the last year. Sanctioned by Law No. 14,052/2020 and regulated by Normative Resolution No. 895/2020 of the National Electric Energy Agency (Aneel), the Agreement involved the payment of debts by generators, with the counterpart of extending the concession terms. Adherence also required the waiver of any ongoing legal proceedings related to the topic.

Companies in the electricity sector as a whole joined the GSF Agreement, including CTG Brasil. In 2020, the financial impacts associated with this subscription were estimated and accounted for in the financial statements. The exception was Rio Paraná, which still did not have parameters for estimating reimbursement. In 2021, the legal procedures were completed and the amounts and extension deadlines formally determined by the relevant bodies.

## Effects of the GSF Agreement

**R\$ 1 billion** in reimbursements paid by CTG Brasil

Extension of concession terms

- **10 months** (average) for Rio Paraná
- **35 months** (average) for Rio Paranapanema
- **60.4 months** for Rio Verde
- **21.9 months** for Rio Canoas

**2 ações** lawsuits closed



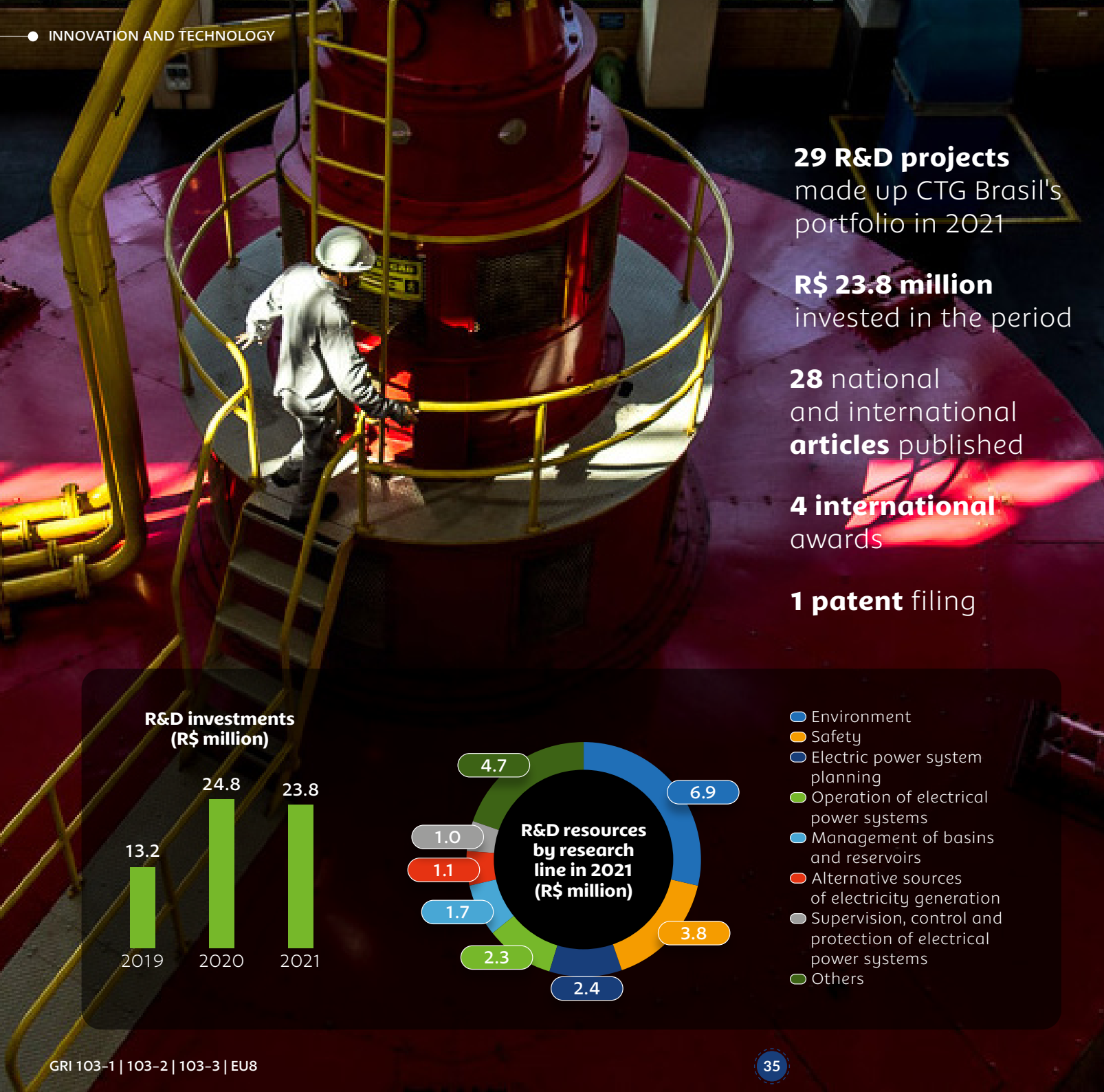
# Strategic challenges

A more connected look to the business and the objectives of the corporate strategy. With this premise, CTG Brasil revised its innovation strategy in 2021, defining key themes and areas of interest. This change is part of a natural maturing movement of the company.

In the first years, the initiatives were more focused on internal management challenges, although with the possibility of being replicated and expanded by the sector. Now, in addition to this bias towards corporate processes, investments in Research, Development & Innovation (R&DI) aim to support the development of the corporate growth strategy in line with the level of technological readiness available in the market. Examples of this new perspective include projects focused on portfolio diversification and the complementarity of energy generation sources.

In 2021, CTG Brasil invested R\$ 23.8 million in its corporate R&DI program, which allocates funds in accordance with the requirements established by the Research & Development Program of the National Electric Energy Agency (Aneel). This investment exceeded the annual obligation of Aneel's R&D program by 46% for the period, maintaining the investment level of the previous year.





**29 R&D projects**  
made up CTG Brasil's  
portfolio in 2021

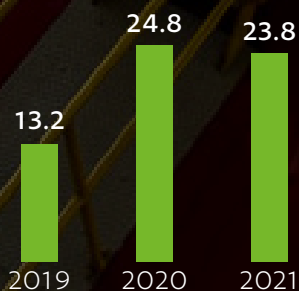
**R\$ 23.8 million**  
invested in the period

**28 national  
and international  
articles** published

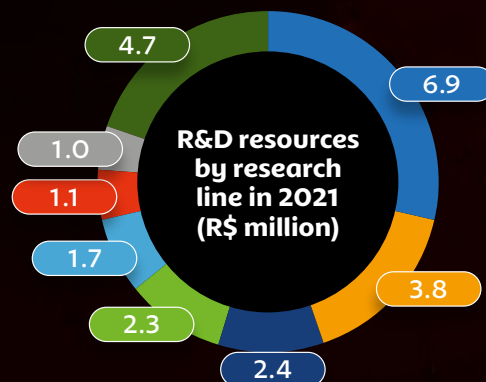
**4 international  
awards**

**1 patent** filing

**R&D investments  
(R\$ million)**



**R&D resources  
by research  
line in 2021  
(R\$ million)**



- Environment
- Safety
- Electric power system planning
- Operation of electrical power systems
- Management of basins and reservoirs
- Alternative sources of electricity generation
- Supervision, control and protection of electrical power systems
- Others

## Acknowledgments

In 2021, CTG Brasil was elected one of the leading companies in open innovation in the country, appearing in the TOP 5 Renewable Energy category of the Ranking 100 Open Startups. The company also had three winning projects at the 2021 International Innovation Awards: "Prototype of a servo-pneumatic unit for turbine speed regulation", in the Product category; "Local development of sustainable tourism", in the Organization and Culture category; and "Disclosure of information through social media", in the Solutions category and received an award at the Chinese Enterprise Global Image Summit 2021 with the project "Control of golden mussel infestation by genetic infertility".

In addition, CTG Brasil was present with a specific stand in the Brazilian pavilion of APEX Brasil at the 23rd edition of the China High Tech Fair—CHTF, the largest and most influential science and technology fair in China, in the city of Shenzhen, presenting its R&D projects and innovation initiatives.

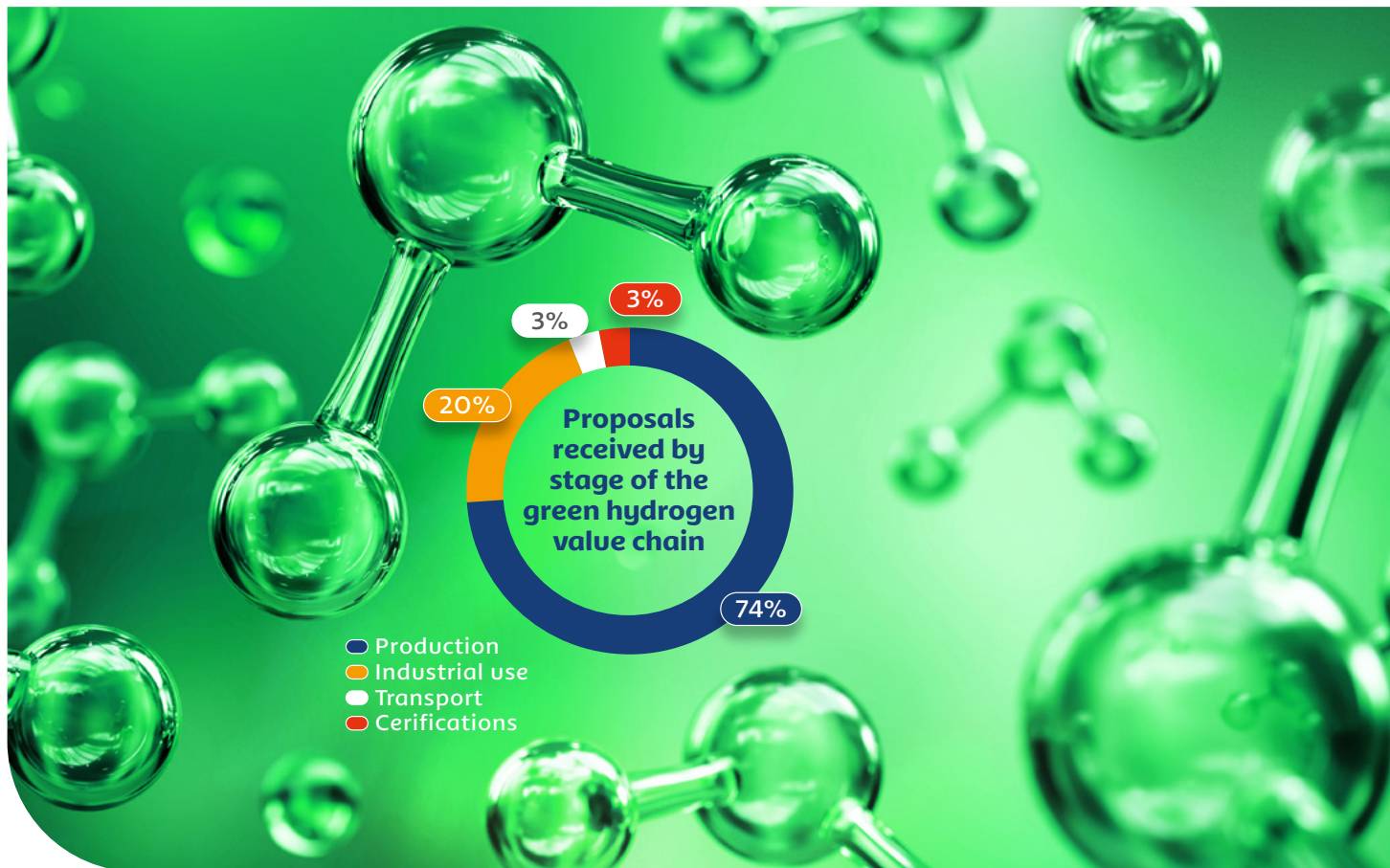


# The energy of the future

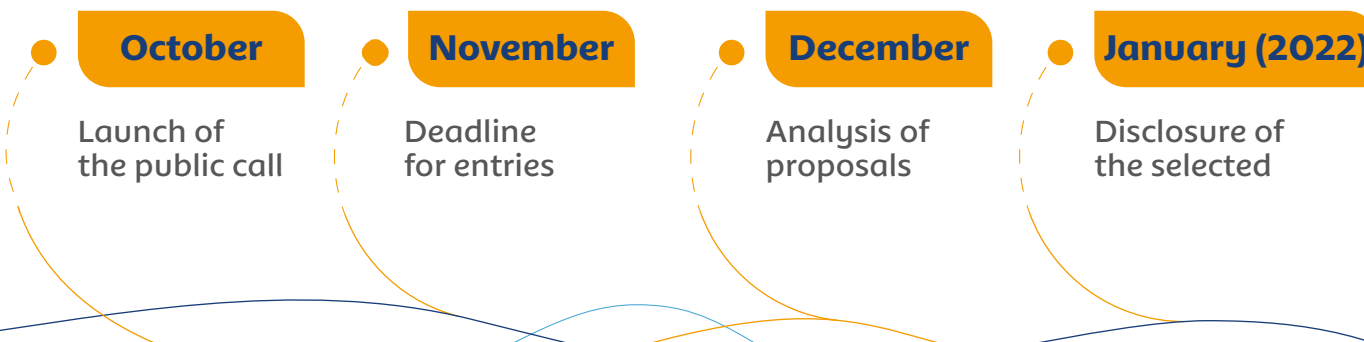
The growth of renewable sources in the global energy matrix involves the development of new technologies. Although solar and wind generation are quite relevant in the decarbonization of electricity generation, large industrial consumption and heavy logistics activities still represent a challenge. This type of consumption would require the use of very large batteries to adapt to the intermittent nature of renewable sources, which makes investments in this direction unfeasible.

The alternative is to work on green hydrogen, considered the fuel of the future. Obtained from the electrolysis of water, this hydrogen is 100% renewable and quite light for transport, which allows it to be adapted to engines of large vehicles such as trucks.

In order to map the projects underway in the country and act as a protagonist in the technological development of green hydrogen, CTG Brasil launched in 2021, in partnership with the National Service for Industrial Learning (Senai), the Strategic Mission Hidrogênio Verde. It is the largest public call in this field in the country. 31 projects were received, from 13 states, totaling R\$ 183.7 million in proposals, ten times the amount foreseen in the public notice (R\$ 18 million).



## Stages of the Strategic Mission



The geographic diversity and technical areas on which the initiatives are focused is one of the differentials of the set of proposals. In order to evaluate the interested parties, CTG Brasil considered this balanced distribution in stages of the green hydrogen value chain, in addition to the interest of the proponents

in investing in counterparts. The selection of initiatives was conducted in December 2021, involving consultants and external experts, with the disclosure of those approved in this first phase of investments in January 2022.

Three initiatives will receive contributions to be developed: one

aimed at formatting a platform to map and market the fuel; another that involves the production and storage integrated with photovoltaic panels and a micro energy grid; and the third focused on technologies that optimize energy conversion, aiming at cost reduction and better efficiency in the production of green hydrogen. The

projects chosen have a period of 36 months of execution from the signing of the contracts.

The company's objective is to develop an investment pipeline in green hydrogen. Some of the Strategic Mission initiatives may receive support in the future, and new projects must also be identified in the coming years without the need for a large-scale public call. Positioning itself as a reference on the subject, CTG Brasil hopes to create a more organic dynamic with the green hydrogen ecosystem, continually receiving new project proposals for development.

CTG Brasil has selected three green hydrogen initiatives for investment over the next three years

## Types of hydrogen

The application of hydrogen as a fuel is nothing new. As this element is not found in its pure form in nature, scientists have developed methods for its production from other materials. It is in these extraction procedures that the differences between the three types of hydrogen lie—and the potential gains with green hydrogen technology.

### Gray

It is the most common and widely adopted form today. Hydrogen is obtained from natural gas, but this reaction releases large amounts of carbon dioxide into the atmosphere.

### Blue

Not so common, it is obtained by the same process of beneficiation of natural gas, but in this case the emissions are sequestered at the moment of generation, reducing the emissions footprint.

### Green

A technology under development, it uses water as a base: with an electrolysis process, hydrogen molecules are separated and oxygen is emitted into the atmosphere. The main challenges in generation are related to the costs and productivity of the technique.



# Efficiency in solar generation

Improve performance predictability and extend equipment life in photovoltaic plants. With these objectives in mind, CTG Brasil has been developing a large-scale Research & Development (R&D) project—the largest single investment in a company's research: R\$ 8 million.

The project's differentials are the structured partnerships for its implementation. Research and teaching entities and other companies in the sector have joined forces to evaluate the performance of bifaced photovoltaic panels (which capture light on the upper and lower surfaces of

the panel) under real conditions in the national territory. When produced by manufacturers in Europe and Asia, the models do not take into account the particular characteristics of solar incidence, dust and Brazilian soil cover, among other local factors that can affect their productivity.

Assessing this type of condition is what is called tropicalization, and it will allow for the scale replication of better techniques for the operation and maintenance of solar generation plants. Five locations, mainly in the Northeast, make up the universe of data collection. A laboratory plant will also be installed to test the results and assess their applicability on a large scale.



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# Posts

- Innovation
- Project ONE
- Electric mobility
- Sustainable tourism



## Innovation Hubs

In 2021, CTG Brasil started an important step in the internationalization plan of its innovation agenda, with the start of operations in Europe of an advanced post to prospect opportunities for international collaboration and support the advancement of the partnership with SENAI.

In addition, CTG Brasil was the first company to open its Innovation Habitat at the SENAI Institute for Innovation in Renewable Energies (ISI-ER), in Natal (RN). The habitat of Rio Grande do Norte is CTG Brasil's second innovation space. The company also has the CTG Brasil Innovation Hub in São Paulo, another result of the partnership with SENAI.

## Digital Innovation Lab

In 2021, CTG Brasil renewed its partnership with Associação Catarinense de Tecnologia (ACATE), which has maintained the Digital Innovation Lab since 2019. This space works as a connection between the company and the startup ecosystem, which can submit solutions to face corporate challenges. Projects in the areas of corporate communication, marketing and technology have already been developed in recent years within the scope of this initiative. The renovation, which maintains the use of resources from the Research & Development



regulatory budget as a differential, provides for an investment of R\$ 1.6 million. The priority in this second phase is to accelerate the company's digital transformation.

## Integrated systems

In July 2021, CTG Brasil concluded the first phase of the Project ONE, which consolidated the company's management systems into a single solution, SAP Hana. The project involved 13 months of work by the teams, parameterizing all the routines incorporated in the new system, carrying out tests and preparing the transition. The definitive change took place with Go Live, without any kind of problem or interruption in the availability of the systems. By 2022, the second phase of the initiative will be completed, with the addition of additional modules, especially in the field of people management.

### PROJECT ONE IN NUMBERS

 **+ 165 thousand hours** of activities

 **+ 100 people** directly involved

 **+ 370 training sessions**, with more than **3,400 participations**





## Electric mobility

Currently, around 10% of CTG Brasil's light fleet is made up of electric vehicles, a percentage that should be expanded in the coming years. This advance was accelerated by a Research & Development (R&D) project approved in the public call of the National Electric Energy Agency (Aneel) in 2019 for electromobility.

The initiative, with resources of R\$ 7.4 million until 2022, will install a route of 18 electric stations from the headquarters of CTG Brasil, in São Paulo, to the Ilha Solteira and Jupiá plants, also covering all the company's hydroelectric plants along the Rio Paranapanema. When completed, it will be the largest private electromobility corridor in the country, covering 1,300 kilometers.

In 2021, electric vehicles were acquired and the installation of charging stations began at the São Paulo office and at the plants. For next year, charging stations along the highways and the final stages of testing and evaluating the model are planned.

- 7 fully electric light vehicles in the CTG Brasil fleet**
- 2 hybrid light vehicles**
- 1,3000 kilometers of electromobility corridor extension**
- 18 electrical stations**

## Boost for sustainable tourism

The three winning initiatives of the Sustainable Tourism Innovation Challenge, launched in 2020, completed the mentoring and acceleration process in the last year. An event with external experts marked the end of the initiative, which contributed to the professionalization of the supported projects, strengthening actions that leverage social and environmental benefits associated with a new form of tourism. The Challenge also included the dissemination of a study mapping initiatives across the country and involved an investment of R\$ 2.1 million.



### ACCELERATED PROJECTS IN 2021

#### BATUC Network

It brings together 34 community tourism ventures in Bahia

#### Freedom Route

Values history in traditional black communities in São Paulo

#### Legal CO<sub>2</sub> Tourism – Guardians of the Climate

Engages industry actors and tourists in offsetting greenhouse gas emissions from their activities and travels

# Safety first

CTG Brasil's commitment to its number 1 value — **We prioritize life** — has driven a broad transformation in corporate safety processes and culture. This journey involved reviewing the criticality assessment of tasks, reformulating contractor management processes, reorganizing the corporate structure, training, and internal communications.

The first wave of evolution came with a plan of 50 initiatives designed by an internal working group, made up of employees from different areas. Among them, it is worth mentioning the review of the task criticality assessment procedure. A new classification rule was designed and applied to each of the operation procedures and modernization projects, defining new controls and more restrictive prevention measures.

**The certification of 100%** of CTG Brasil's generating facilities in ISO 45001 through the Integrated Management System attests to the adoption of **best practices in health and safety**







This review was accompanied by the reformulation of the model for contracting and managing partners who work with outsourced professionals at the plants. Safety criteria were incorporated into the approval process, such as the history of accidents and the adoption of occupational health and safety (OHS) management systems by the partner. In addition, service providers are evaluated on a monthly basis, and non-conformities on the subject can even lead to the withholding of payments until they are resolved.

## Cultural transformation

With the support of a specialized consultancy, CTG Brasil carried out in 2021 a diagnosis of the maturity of its safety culture. The methodology used, called Hearts & Minds, is already used by more than 50 companies in the country, which allowed the comparison of results as a reference for the evolution of the company's safety culture.

The result of this diagnosis was presented and discussed with several employees and leaders in workshops conducted internally, resulting in the identification of actions that contribute to the evolution of the safety culture.

Among the more than 360 actions identified in these workshops, 32 were prioritized in the Cultural Transformation Journey of CTG Brasil, which covers initiatives until 2024. This mapping was built from the bottom up, with the involvement of all functional levels — working on the sense of belonging, transformation and engagement — and approved by the company's Executive Committee.

### SAFETY MATURITY DIAGNOSIS

**+ 400 employees**  
involved

**18 individual** interviews

**15 focus groups**  
involving 144 employees

**12 units** visited,  
with the participation  
of 156 people

## Governance and management

Changes in the structure of CTG Brasil and the strengthening of committees also contribute to this process of cultural transformation. In 2021, a Board of Directors became exclusively dedicated to the topic of health and safety, redirecting environmental and asset management leaders to other areas of the company. An Occupational Health area was also created in this Board, with an in-house doctor from CTG Brasil and the Safety Engineering area, focused on process improvements. These teams complement the operations of the Operational Safety area, focused on field activities.

Discussions in corporate SSO committees also gained momentum. At each plant, the Internal Accident Prevention Commissions (CIPAs) involve people from different hierarchical levels in proposing improvement and awareness-raising actions. Weekly, SSO and Operation & Maintenance teams meet to discuss indicators and monitor ongoing initiatives. Within the scope of senior management, the Executive Safety Committee is led by the CEO of CTG Brasil, with monthly meetings to deliberate on strategic aspects in the governance of the topic.



## Risk prevention

Health and safety risk management is carried out comprehensively and at different layers. At the strategic level, the corporate risk management model covers aspects of this topic. The Integrated Management System monitors applicable legal requirements and aims at continuous improvement and risk mitigation, through the Aspect, Impact, Hazard and Risk Matrix. At the units, procedures such as the Preliminary Risk Analysis (APR) and the proper use of individual and collective protective equipment apply to all activities. All

employees are also guaranteed the right of refusal, which allows them to interrupt or not start a task if the person feels insecure or unqualified, simply communicating to the immediate leadership.

Health and safety training and disclosures on the subject also contribute to preventing accidents. All mandatory training of in-house and outsourced teams is monitored within the scope of the SGI, ensuring adequate qualification of people for each task performed.

The creation of an exclusive Board for Health and Safety strengthened governance on the topic and boosted progress in 2021



## Health promotion

All employees periodically carry out medical examinations to monitor the health of the worker, in line with the PPRA and PCMSO of CTG Brasil. The company requires this same environmental compliance from its contractors that involve the provision of outsourced services.

The offer of the health plan benefit to the company's employees contributes to the access to health services and includes monitoring and reception programs in case of

chronic diseases, developed by the plan operators. Twice a year, the Health Committee of CTG Brasil meets to analyze the loss ratio of the health plans offered and identify action plans to improve the health profile of the teams. In addition, the company makes agreements with gyms available through the Gympass benefit and promotes an initiative to monitor pregnant employees, from prenatal care to the first months after birth.

The effectiveness of safety promotion measures is reflected in the improvement of accident indicators

## Work accident indicators

In 2021, CTG Brasil recorded seven work-related accidents at its units, only one with lost time. The performance led to an improvement in the frequency and severity rates of accidents with third parties compared to the previous year.

### Work safety indicators

	2021		2020		2019	
	Employees	Third-party	Employees	Third-party	Employees	Third-party
Number of man-hours worked (thousand)	2,225	1,735	2,068	2,268	2,000	2,375
Number of accidents resulting in death	0	0	0	1	0	1
Frequency rate of accidents that resulted in death*	0.00	0.00	0.00	0.44	0.00	0.42
Number of accidents with high severity	0	0	0	1	0	1
Frequency rate of accidents with high severity*	0.00	0.00	0.00	0.44	0.00	0.42
Total number of recordable accidents	1	6	0	8	0	6
Frequency rate of recordable accidents*	0.45	3.42	0.00	3.53	0.00	2.53
Number of days lost	0	15	0	6,000	0	6,003
Accident severity rate*	0.00	8.50	0.00	2,645.41	0.00	2,528.06

\* Rates calculated with a factor of 1 million man-hours worked. No occupational diseases were recorded.

# Care for people

In yet another year of social distancing and the impacts associated with the Covid-19 pandemic, the close look at people and the daily practice of corporate values were the way to overcome challenges and strengthen team spirit. Once again, CTG Brasil experienced its number 1 value on a daily basis: "we prioritize life".

One of the initiatives that demonstrates this attitude is the Mais Energia Program, which brought a series of actions aimed at promoting health.

## Purpose

Powering the world's development with large-scale, clean energy

The differential is a combined approach for the quality of life and well-being of employees in four pillars: physical, mental/emotional, financial and social. Throughout the year, the actions focused on physical and mental health and included a gamification challenge, with activities such as running, walking, healthy eating, meditation, dancing, pilates, functional and labor gymnastics and stretching.

In the second semester, a survey within the scope of the program captured the demands and perceptions of the people who work at CTG Brasil, and its results will guide the initiatives to be developed throughout 2022.

## Values

We prioritize life  
Our energy is our people  
Integrity, always  
Excellence in everything  
We innovate to transform



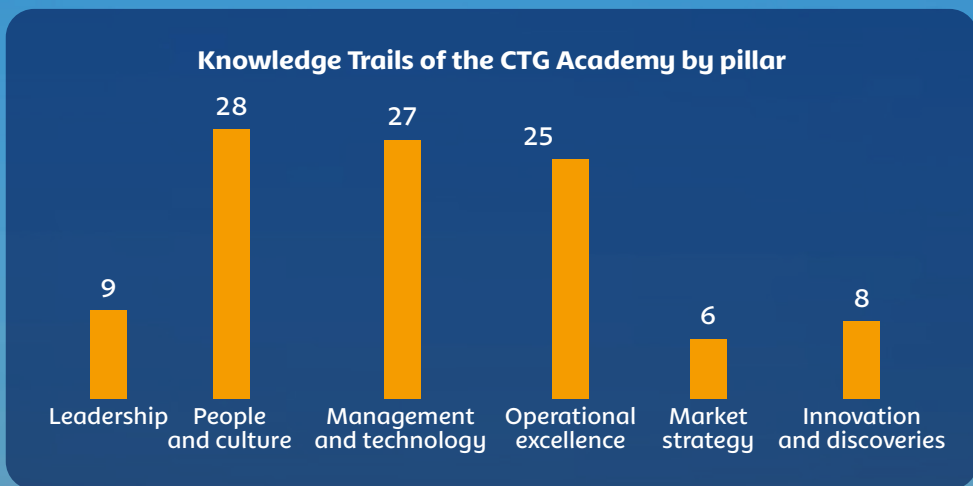


The benefits package offered by CTG Brasil to its employees is defined according to the collective bargaining agreements and conventions in each location and made available to the entire staff. Only supplementary private pension plans are restricted to those hired in accordance with the Consolidation of Labor Laws (CLT), that is, they do not cover interns, apprentices and international employees.

The qualification of people is one of the levers for an environment of continuous development and motivation. To strengthen technical training and skills training among employees, the company implemented the CTG Academy in 2020, valuing continuous experience and learning initiatives and complementing the already adopted practice of incentives and subsidies for language courses and continuing education. Because of the pandemic, Academia CTG

was opened in a 100% digital environment. On this platform, 103 Knowledge Trails are available to all employees, organized into six pillars.

One of the pillars is Leadership, which encompasses the Leadership Development Program (LDP). Because of the pandemic, the LDP was redesigned into an online format, allowing leaders to apply for training. In 2021, the topics addressed by the LDP aimed to sensitize the leadership to current management issues and more humanized relationships, addressing the following aspects: "Digital mindset and the new leadership challenge", "The leader's role in creating a culture psychological safety" and "Nonviolent communication and emotional agility".



## Career and succession

Another novelty of the year was the Succession Project, with the mapping of successors to senior management positions. Until then, CTG Brasil had a pool of successors for the key positions in Operation & Maintenance (O&M), but it still did not have this type of survey for the corporate areas. In 2021, all vice-presidencies and directors were analyzed, identifying potential successors in the company's management body. Critical positions, which have a high impact on the business, and those of key people for the company were also mapped. In the coming years, CTG Brasil will dedicate efforts to the development and preparation of these leaders and knowledge management.

In 2021, the Performance Assessment Cycle was improved and evolved into the People Management Cycle, bringing an integrated look at performance, competencies and reward, as well as analysis of potential and readiness for positions of greater autonomy, exposure and leadership. A group of 71 employees who stood out in the Performance Assessment constituted the CTG Brasil Talent Pool, being eligible to carry out an assessment in order to map and

analyze individual potential and readiness levels. These assessments were carried out by two partner consultancies.

As part of the new People Management Cycle, the company created the People Forum, which is a moment in which the leadership and the People and Culture team sit together to talk about employees, analyzing performance evaluations, competencies and assessment results and discussing development and future career opportunities for employees at the

company. The idea is to expand the scope of participants in the next People Management cycle, scheduled for the second half of 2022.

The performance evaluation already adopted in previous years was maintained and covered 100% of the employees, evaluating the deliveries in the period against the contracted goals and serving as a basis for the calculation of the variable remuneration.

In 2021,  
successors were  
mapped to the  
vice presidencies  
and corporate  
boards







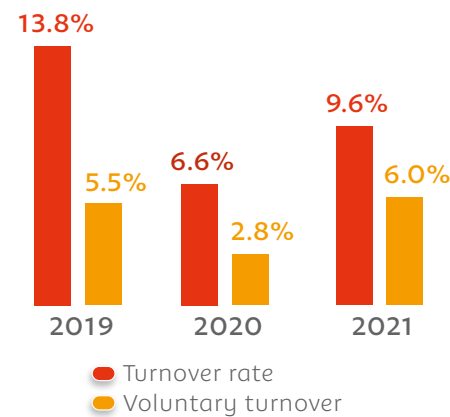
**+ 66 thousand hours**  
of training promoted in 2021

**21,500 participations**  
in CTG Academy courses

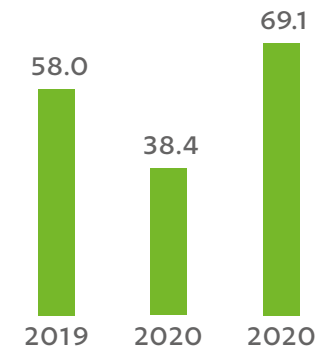
♀ **186**  
women

♂ **751**  
men

Total and voluntary turnover



Average hours of training per employee



# Posts

- Diversity
- Covid-19



**100% of employees** with a complete vaccination scheme\*

*\*Considers those able to take vaccines.*



**34 thousand tests** performed



**R\$ 20 million** invested in internal prevention actions

## Covid-19 prevention

CTG Brasil maintained throughout the year the security protocols and initiatives aimed at combating the pandemic. This care was especially important to maintain the activities and modernization projects of the plants, especially in the first semester, when the country experienced a new peak in hospitalizations. The company was also one of the only ones in the country to carry out Covid-19 simulations, training teams on how to act and conduct operations in the event of teams leaving due to contagion of the disease. In late 2021, corporate teams returned to the offices in a hybrid model,

combining three days of remote work with two days of face-to-face work.

To support civil society's fight against the new coronavirus, CTG Brasil has donated more than R\$ 7.5 million since the beginning of the pandemic, mainly in equipment such as respirators, vital signs monitors and defibrillators. In 2021, 15 air conditioners were donated to the Regional Hospital of Ilha Solteira, to assist in the air conditioning of intensive care units and wards dedicated to the care of patients with Covid-19.

## Promotion of diversity

In 2021, CTG Brasil trained its leaders in favor of a more inclusive work environment. Three groups underwent training on unconscious bias, comprising behaviors that, even when not deliberate and intentional, are exclusionary and carry prejudice. Qualifying the team is the first step towards advancing in the development of a more diverse and minority-inclusive work environment. The Communication, People & Culture, Administrative and CSC teams also received training on the topic of diversity in 2021.

In addition to the training front, CTG Brasil mapped throughout the year all the company's positions in which people with disabilities (PCDs) could be employed. This survey will serve as a basis for new hiring processes, facilitating the hiring of these professionals.

These initiatives and the definition of diversity goals and objectives (learn more on page 14) contributed to the advancement of CTG Brasil within the scope of the Diversity Pact, assumed in 2020 and proposed by Gerdau. In 2021, CTG Brasil evolved 13 percentage points in its score in the Pact evaluation questionnaire, reaching level 2 on a scale of 1 to 4.



# Biodiversity protection

Annually, almost 8,500 kilometers of reservoir edges—a distance equivalent to the Brazilian coast—are monitored to ensure adequate environmental conditions around CTG Brasil's operations. About 3.6 million fingerlings are released into the reservoirs and more than 350,000 seedlings are destined for reforestation plantations. These large numbers reflect the proportion of CTG Brasil's efforts in favor of biodiversity conservation in the power plants' regions of influence.

This care was even more evident, in 2021, by the company's position on the need to reduce the flow of the Jupia hydroelectric plant (UHE) in order to preserve the country's energy security (learn more on page 25). Other examples of this attitude can be seen in the management of environmental licensing conditions and in the Research & Development (R&D) projects of CTG Brasil.

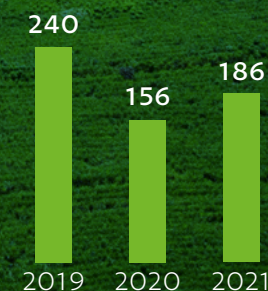
In 2021, a pilot project for monitoring macrophytes concluded its first phase at UHE Jupia. Based on satellite monitoring and processing in systems with georeferencing maps, the teams were able to predict and monitor the formation of banks of this aquatic vegetation. Macrophytes develop in the water of rivers and reservoirs and are grouped in large blocks, which can harm or even interrupt the operations of the plants if they get stuck in the equipment and turbines. In 2022, the second phase will begin, which includes the programming of a warning and alert system. With it, it will be possible to predict how long a given bank of macrophytes will arrive at the plant, signaling the operational teams to take preventive measures.







Areas under restoration (hectares)



## 14.6 thousand hectares of habitats protected by CTG Brasil\*

*\*Areas that have undergone or are in the process of ecological restoration.*

## 186.3 hectares under restoration (planting + management)

## 93.3 thousand seedlings donated to communities

Reforestation activities on the edges of the reservoirs follow the planning of the environmental licensing conditions. At the plants along the Rio Paranapanema, these processes have been going on for decades. Almost 7 thousand hectares have already been reforested since the implementation of these plants, and, currently, there are few areas that still require planting care (about 30 hectares per year). In the case of hydroelectric plants on the Rio Paraná (Ilha Solteira and Jupia), the environmental licensing is more recent and includes the requirement to reforest 100 hectares per year. In these actions, CTG Brasil favors connection areas, which allow the interconnection of existing

forest stretches. In 2021, the company planted and managed 186.3 hectares in the process of restoration, an increase of 19.4% over the previous year.

The biodiversity of habitats does not just depend on adequate vegetation cover. In rivers, the release of young fish, called fingerlings, is essential for the repopulation of water bodies. On land, monitoring fauna, monitoring endangered species and maintaining spaces for the treatment and safety of animals are equally important.



At CTG Brasil, a fish farming station is maintained at the Salto Grande HPP, with 54 tanks covering an area of 20,000 square meters. In it, an R&D project called surrogacy has been contributing to the reintegration of piracanjuba fish into nature. This species has a very small population of females, which makes it difficult to reproduce under natural conditions. By using other species to fertilize eggs with a genetic load of piracanjuba, new individuals are created on a large scale. In 2022, a reform of the fish farm at CTG Brasil will begin, which will modernize the tanks and laboratories and allow for an increase in the diversity of fish raised on site. Among the new residents expected are carnivorous species, such as the *pintado* and the *jurupoca*.

The company also maintains, in the surroundings of the Ilha Solteira HPP, the Wild Fauna Conservation Center (CCFS), which includes a zoo and an area for screening rescued animals. Throughout the year, with the space closed for visitors, CTG Brasil directed resources to improve accessibility and signaling conditions, in addition to pruning activities and removing diseased trees.

**Number of species identified in unit monitoring in 2021 according to IUCN classification**

	Critically Endangered (CR)	Endangered (EN)	Vulnerable (VU)	Near Threatened (NT)
Rio Paraná	0	4	0	0
Rio Paranapanema	0	5	2	4
Rio Canoas	2	0	2	0
Rio Verde	0	0	3	5

**Environmental licensing**

Hydroelectric plants generate significant impacts on biodiversity during the period in which they are built. This is because the flooding of areas to compose the reservoirs causes permanent changes to the fauna, flora and composition of the soil and terrain. These impacts are foreseen in the environmental licensing and mitigated or compensated through conditions that the company responsible for the asset must comply with and report periodically to the regulatory body.

Once in operation, the plant continues to have an environmental license in force and a series of conditions to minimize the environmental impacts associated with its operation and risks such as leakage. At CTG Brasil, these obligations are reflected in approximately 150 environmental programs continuously maintained by the company and whose results are regularly presented to the competent authorities, according to the renewal of licenses.



# Combating climate change

For the second consecutive year, CTG Brasil neutralized 100% of the direct greenhouse gas (GHG) emissions from its operations. The compensation, as in 2020, was made through the REDD + JARI AMAPÁ Project, which promotes activities for the sustainable use of the Amazon in an area of 220,000 hectares.

Once again, the GHG inventory was carried out in accordance with the Gold Seal standard of the Brazilian GHG Protocol Program, which attests to the submission of data to independent verification and brings more reliability to the numbers calculated and disclosed. The inventory is organized into three scopes, which cover direct emissions from operations (scope 1), emissions associated with the purchase of electricity (scope 2) and other emissions in the company's value chain (scope 3).

## Risks and opportunities

In 2022, CTG Brasil will begin the development of specific studies on the risks and vulnerabilities of the business in the context of climate change. This approach is technically called adaptation, as it encompasses measures to protect the company from the existing or inevitable impacts of global warming. In this movement, CTG Brasil also intends to start studies on the correlation between climate issues and financial risks, according to the methodology of the Task Force on Climate-Related Financial Disclosures (TCFD).

This type of research will help to improve the management of risks and opportunities associated with the context of climate change, which currently occurs tangentially to other corporate processes. In operations, for example, monitoring and responding to hydrological risk (learn more on page 25) includes preparing the company for extreme drought scenarios or increasingly longer periods of drought. Another example is the monitoring of dam safety (learn more on page 58), which covers, in emergency simulations, flood scenarios and extreme weather events.



### Scope 1

#### Direct emissions from operations

Emission sources: mobile combustion, stationary combustion, fugitive emissions, effluent treatment and agricultural and land use change emissions

Scope 1 emissions (tCO<sub>2</sub>e)



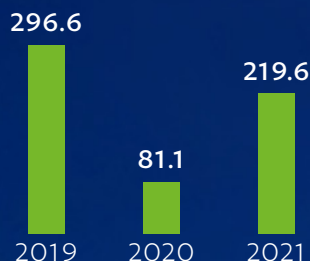
#### 30.9% reduction

in the year, due to the decrease in travel and staff at the plants in the context of the pandemic

### Scope 2

#### Indirect emissions from the purchase of electricity

Scope 2 emissions (tCO<sub>2</sub>e)



#### 170.8% increase

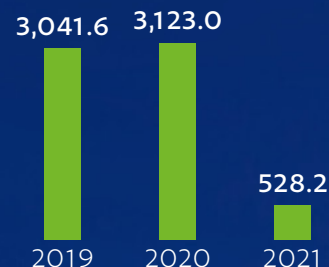
in the year, explained by the increase in the volume of electricity purchased

### Scope 3

#### Other indirect emissions in the value chain

Emission sources: employee business travel and employee commuting (outsourced public transport)

Scope 3 emissions (tCO<sub>2</sub>e)



#### 83.1% reduction

in the year, because the company stopped accounting for emissions associated with logistics activities contracted by CTG Brasil (upstream transport & distribution)\*

\*Disregarding this source in the 2020 base year inventory, the reduction was 62.8% in the period.

### Emission intensity

Counted as the sum of Scope 1 and 2 emissions divided by net energy generation in the period

Emissions intensity 1 (tCO<sub>2</sub>e/MWh)



#### 17.5% reduction,

due to the reduction in scope 1, which offset the increase in scope 2 and the 3% decrease in net energy production



Click here and access CTG Brasil's GHG inventory in the Public Emissions Registry of the Brazilian GHG Protocol Program

# Environmental management

CTG Brasil has been strengthening the culture of its teams to prevent and minimize impacts related to the operation of the plants. In operations, the main risks are related to waste disposal and leaks and spills. To avoid them, two action fronts were highlighted in 2021. On the one hand, the ISO 14001 certification (learn more

on page 7) standardized all processes and procedures, ensured the compliance of grants and systematized the control and monitoring mechanisms. On the other hand, the adoption of quarterly environmental inspections at the units made it possible to more quickly identify risk conditions and take

preventive measures. The effectiveness of this management approach is evidenced by the maintenance of all environmental licenses and grants for the plants and by the absence of any serious environmental incident during the year.

**R\$ 16 million**  
was invested in  
environmental  
management by CTG  
Brasil in 2021

## Technology for the environment

At the Salto Grande hydroelectric plant (HPP) a Research & Development (R&D) project minimized the risk of oil leakage. The initiative involved changing the speed regulator, which controls the opening of blades for water to enter the turbines. This equipment is normally powered by hydraulic oil, but the prototype used by CTG Brasil runs on compressed air. With the replacement, the equipment started to operate without the need for fluids and, therefore, without the risk of leakage. The investment in the project, which can be replicated to other units, was R\$ 3.3 million.





## Water resources

The operation of the plants does not demand a significant consumption of water. After passing through the turbines, the water follows the natural course of the river, with no impact on its quality or quantity. The main challenges in this area are managing the shared use of reservoirs and taking care in controlling the flow. Practices on these fronts are related to biodiversity (learn more on page 50) and dam

safety (learn more on page 58). In 2021, one of the highlights was CTG Brasil's approach to dealing with the water crisis, analyzing and monitoring the reduction in flow levels at the hydroelectric plants (HPP) Jupiá, Rosana and Jurumirim (read on page 25).

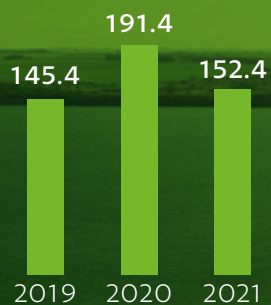
In operations, water consumption is mainly related to cleaning, cooling and human consumption activities. The

main source of capture is artesian wells installed in the plants, according to the grants issued by the regulators. The release of effluents is also regulated by specific grants and includes the evaluation of quality parameters on a periodic basis.

In 2021, operations required the collection of 152,400 cubic meters of water, of which 150,000 in artesian

wells, a reduction of 20.4% compared to the previous year, mainly due to reduced staff at the units because of the pandemic. The improvement in the monitoring systems also contributed to this result, allowing for the quicker identification and correction of any leaks. Water consumption in the year was 30,500 cubic meters, an estimated value of 20% of the total captured.

Water consumption in operations (thousand m<sup>3</sup>)





## Waste

Plant maintenance is the main waste-generating activity in CTG Brasil's operations. The company has procedures for the proper transportation and disposal of these materials, in accordance with applicable legal requirements and without generating negative impacts on the environment. The suppliers involved in this management are previously approved and provide documentation to prove the disposal of waste in accordance with the requirements established by the company.

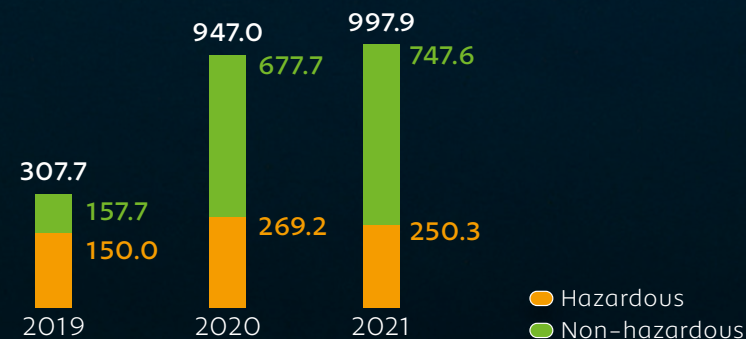
In 2021, 997.9 tons of waste were discarded, 75% of which was non-hazardous waste. The high level since the previous year is a reflection of the Program for Demobilization of Unused Civil Works at the Ilha Solteira and Jupia plants. One of the great advances in the year was the expansion of the forwarding of waste for recycling, a method that accounted for 81% of the year's total.

### Waste disposal by type and method (t)\*

	2021	2020	2019
<b>Non-hazardous</b>			
Recycling	745.8	152.5	157.7
Landfill	1.8	525.3	0.0
<b>Total</b>	<b>747.6</b>	<b>677.7</b>	<b>157.7</b>
<b>Hazardous</b>			
Landfill	152.9	57.9	129.8
Recycling	58.8	119.6	0.0
Co-processing	34.6	91.7	20.1
Other	4.0	0.0	0.0
<b>Total</b>	<b>250.3</b>	<b>269.2</b>	<b>150.0</b>

\*Waste composition is not available. Recycling and co-processing methods allow waste to be reinserted into the production cycle. The disposal for landfill and other methods is considered final disposal.

### Waste disposed by type (t)





# Technology to improve dam safety

More than 200 instruments from the hydroelectric plants (HPP) Ilha Solteira, Jupia and Salto are being automated by CTG Brasil, to allow real-time monitoring of the integrity conditions of the dams. In addition to these, another 330 new auscultation equipment was installed in 2021. These investments are part of a project to modernize and automate the dam monitoring systems, initially planned for these three units.

At the same time, throughout 2021, the company implemented a new platform for the management of all data related to dam safety in the entire generating complex. The new solution facilitates the visualization of information and access to analyses, and can be accessed even from mobile devices, such as cell phones.

## Improvements in the dam of the Salto HPP

In 2021, CTG Brasil invested R\$ 20 million in the recovery of the drainage system of the Salto hydroelectric plant. The work required five months of work and was carried out with all work safety and Covid-19 prevention protocols, with no accident or case of the disease being recorded. As a result, the plant was reclassified by the National Electric Energy Agency (Aneel) from the level of attention to the normal level.



CTG Brasil's efforts to improve controls and streamline decision-making in this area are part of the Dam Safety Plan (PSB). Provided for by the sector's legislation, the PSB brings together complementary work fronts to prevent emergencies and prepare response plans for unforeseen situations. This integrated approach ensured that there were no accidents involving the communities surrounding the plants and the company's assets.

One of the initiatives within the scope of the PSB is the Emergency Action Plan (PAE), which has been implemented in all CTG Brasil units. The PAE provides for the mapping of all possible impacts of incidents that affect the integrity of dams, including their overflow or rupture. Each enterprise has its own plan, which is shared with the city halls and the Civil Defense to carry out prevention and preparedness actions for emergencies.

In the last year, 17 meetings for the presentation of PAEs were held



with City Halls and Civil Defenses of the municipalities located in the Self-Rescue Zone (ZAS) region. A highlight was the participation in the webinar Implementation of the Emergency Action Plan for Dams of the Rio Paranapanema, promoted by the Federal Public Ministry of the municipality of Ourinhos (SP) and organized by CTG Brasil, with the

participation of other companies in the electric sector in the region and stakeholders, including the State University of São Paulo (Unesp), the National Electric Energy Agency (Aneel), the Brazilian Committee on Dams (CBDB) and the State Civil Defense of São Paulo. The event had about 100 participants and is available on CTG Brasil's YouTube channel.

In 2021, the plants held 17 meetings to present the PAEs and started installing emergency signs in the evacuation routes of the ZAS

In 2021, the plants began installing emergency signs for evacuation routes in the Self-Rescue Zones (ZAS), as one of the steps in implementing the PAE. These signs indicate evacuation routes in areas subject to impacts in the event of incidents at the dam. The forecast is to complete the implementation of PAEs in the external areas of the plants by 2023.





# Impulse to generate income in communities

In 2021, the Usina de Negócios (Business Plant) program turned into reality CTG Brasil's vision and strategy of directing its social investments towards income generation and socioeconomic development in the regions of influence of the hydroelectric plants (HPP) of the company. This first phase of the program covers two pilot projects with an investment of R\$ 1 million until 2022. The proposal is to replicate the program in two

other locations next year, according to a prioritization of operational units for social investment carried out in 2020 and reviewed annually.

In partnership with Instituto Meio, Usina de Negócios has two support fronts, one for entrepreneurs and the other for productive groups, and aims to increase their income through training and seed capital to improve their businesses and productions.

The Usina de Negócios involves, in its first phase, R\$ 1 million in investments to boost income generation and socioeconomic development

On the entrepreneurship front, the program directly benefited around 140 micro and small entrepreneurs in the region of the Jurumirim HPP (SP) in management, finance, marketing and communication, reaching more than 400 indirect beneficiaries. As main results, there was a 42% increase in entrepreneurs' income, 100% satisfaction with the course and a 65% increase in participants' management habits.

As for productive groups, in the region of the Garibaldi HPP (SC), the selection process of groups participating in the program was completed in 2021. Of the 23 applicants, three associations were selected. The three groups have as their main source of income the productive activity through family agriculture, with the planting of vegetables, grains, fruits and beekeeping, and benefit more than 70 families in the region.

This front of support to productive groups has a more comprehensive program, including mentoring sessions in person or at a distance for the elaboration of a business plan. The scope, in this case, goes beyond training and involves direct

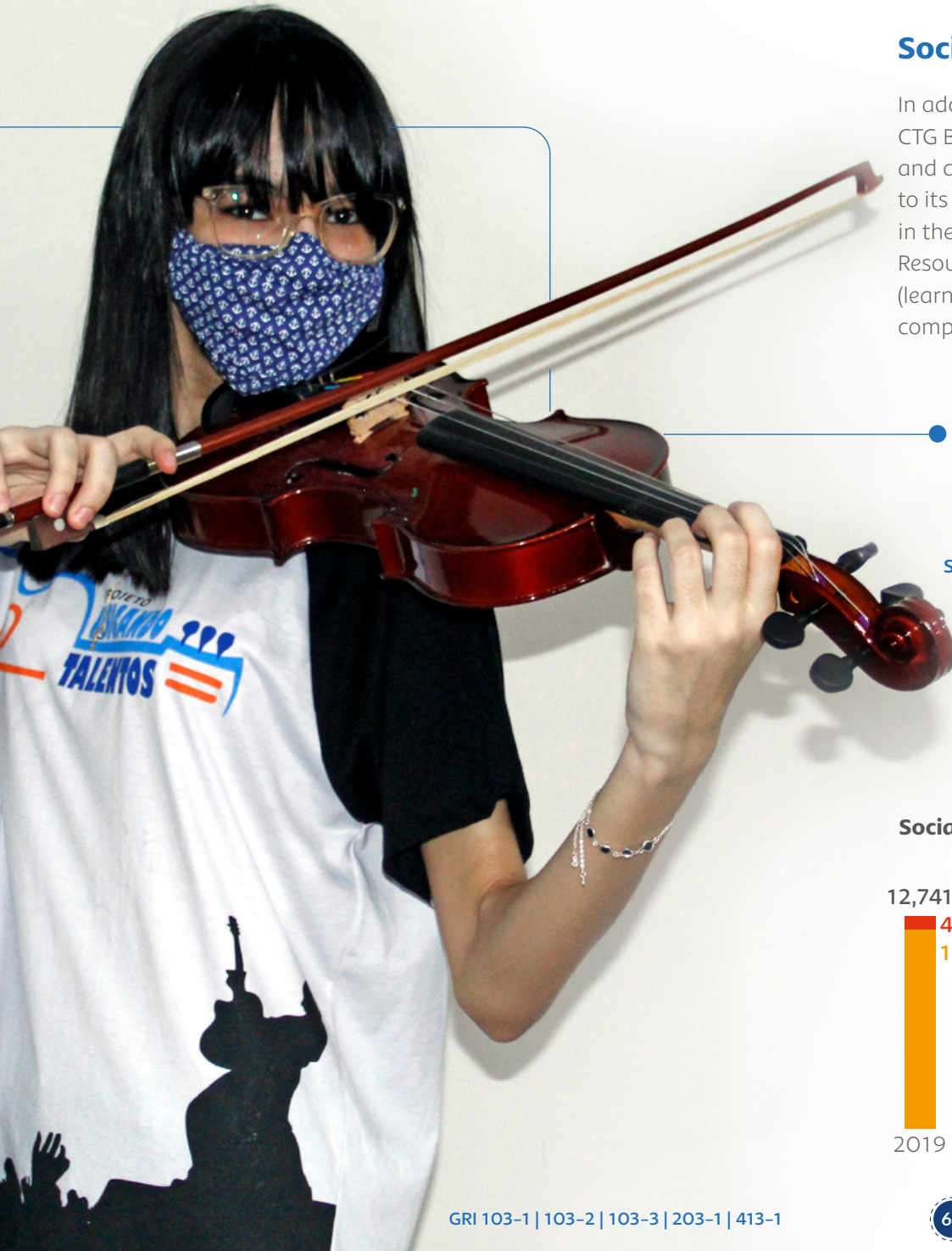


monitoring of professionalization and the adoption of good management practices by these groups. Beneficiaries also receive seed capital directly from CTG Brasil and support in strengthening their networks of contacts and businesses, in addition to having their result indicators monitored by the program team.

**PRODUCTION GROUPS  
SELECTED IN 2021**

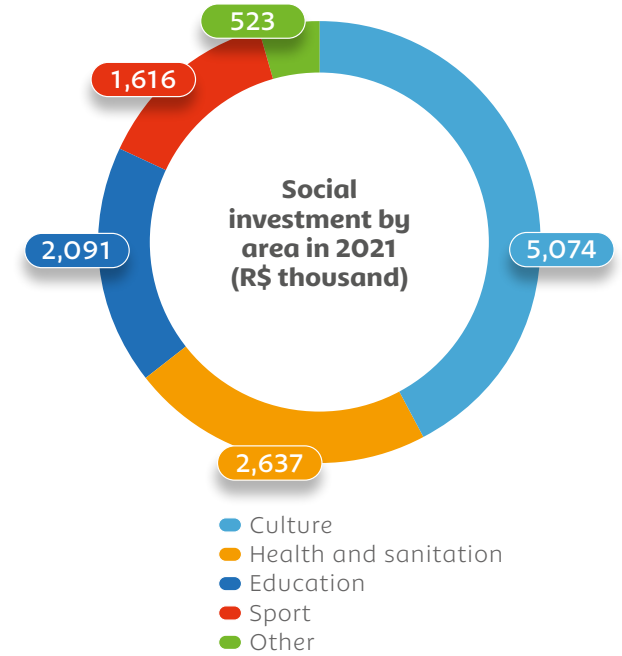
- Association of Quilombola Rural Producers Invernada dos Negros (Abdon Batista)
- Cruzeirinho Women's Association (Cerro Negro)
- Sabor da Serra Association (Cerro Negro)



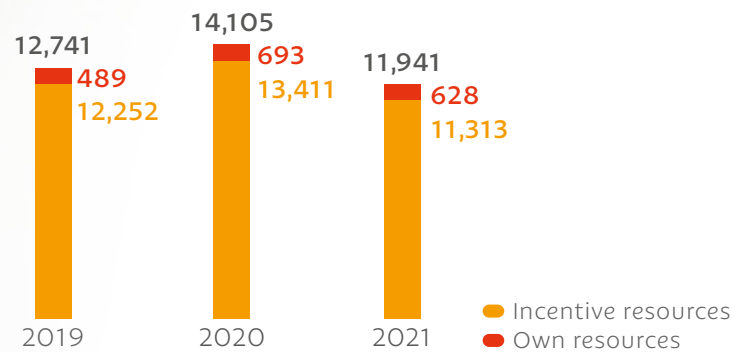


## Social action

In addition to Usina de Negócios, CTG Brasil promotes the engagement and development of communities close to its assets through projects selected in the Public Notice of Incentivized Resources for Local Development (learn more on page 63) and the company's volunteer program.



**Social investment (R\$ thousand)**



# Posts

- History preserved
- Social investment






## History preserved

In 2021, CTG Brasil concluded the implementation of the Archeology Center in Jaçoaba (SC), in partnership with the University of Western Santa Catarina (Unoesc). The construction of the space is part of the compensatory actions provided for in a Conduct Adjustment Term related to the Garibaldi hydroelectric plant (HPP) and required investments of around R\$ 1.3 million since 2020. The space occupies an area of 570 square meters in noble area of the Unoesc campus and has a research laboratory, extroversion room, reception, classroom equipped with audiovisual resources, accessible restrooms and a museum with a permanent exhibition with more than 13,000 archaeological pieces found during the excavations of the Garibaldi HPP, among other archaeological collections. The partnership also has funding from CTG Brasil until 2024 for the operation and maintenance of the space, which is open to the public for free visitation. In addition to education, the Archeology Center has the role of developing research and academic extension.

## Social investment encouraged

In 2021, CTG Brasil held the 2nd Public Notice of Incentivized Resources for Local Development. As in the first edition, initiatives to receive funds from incentive laws (culture, sports, seniors, children and adolescents and health) were supported in partnership with Prosas (a platform for selecting and monitoring social projects). In line with its social investment strategy, the company seeks, via public notice, a portfolio of projects that allows continuity in the development of the plants' regions of influence.

-  **161 projects** registered
-  **19** approved
-  **R\$ 11.3 million** earmarked



# Materiality matrix

The content of CTG Brasil's Annual Sustainability Report is guided by the company's materiality matrix. Prepared in 2019, the current matrix brings together eight material themes, three of which are closely linked to the theme of climate change. Since that year, there has been no significant change in the scope and boundaries of the themes.

The process conducted in 2019 involved engaging stakeholders through three complementary approaches: 21 individual interviews, four face-to-face panels in three Brazilian states and 615 responses to a quantitative online questionnaire. The resulting themes reflect the interests and demands of the company's public.

## Stakeholders engaged in the materiality

- REGULATORY AGENCIES
- ASSOCIATIONS
- CUSTOMERS
- EMPLOYEES AND THIRD PARTIES
- PROVIDERS
- GOVERNMENT
- PRESS
- FINANCIAL INSTITUTION
- COMMUNITY LEADERS
- MEMBERS OF THE POLICE AND CIVIL DEFENSE
- NON-GOVERNMENTAL ORGANIZATIONS
- RESEARCHERS

Climate change

# Complement to GRI disclosures

## GRI 102-8 and 102-41 | Information on employees and other workers and Collective bargaining agreements

### Number of employees by employment contract and gender\*

	2021		2020		2019	
	Undetermined	Determined	Undetermined	Determined	Undetermined	Determined
<b>By gender</b>						
Men	735	16	733	15	687	20
Women	176	10	170	7	161	9
<b>Total</b>	<b>911</b>	<b>26</b>	<b>903</b>	<b>22</b>	<b>848</b>	<b>29</b>
<b>Percentage of employees covered by collective agreements</b>	<b>99.68% (934)</b>		<b>99.68% (922)</b>		<b>99.77% (875)</b>	
<b>By company</b>						
Rio Paraná	340	7	329	11	318	14
Rio Paranapanema	306	2	311	2	285	2
Rio Canoas	25	0	26	0	27	0
Rio Verde	21	0	22	0	20	0
CTG Serviços (CSC)	2	0	70	1	66	2
Corporate	213	17	145	8	132	11
CTG Trading	4	0	0	0	0	0

\*Considers CLT employees and apprentices, all of whom work full-time.

### Other workers per company

	2021		2020		2019	
	Third-party	Interns	Third-party	Interns	Third-party	Interns
Rio Paraná	134	4	128	1	124	8
Rio Paranapanema	77	6	87	5	87	5
Rio Canoas	17	0	20	0	10	0
Rio Verde	17	0	13	0	9	0
CTG Serviços (CSC)	3	0	3	4	3	4
CTG Trading	0	0	0	0	0	0
Corporate	8	15	13	9	10	7
<b>Total</b>	<b>256</b>	<b>25</b>	<b>264</b>	<b>19</b>	<b>243</b>	<b>24</b>



### GRI 102-13 | Membership of associations

CTG Brasil's engagement in sectoral entities is fundamental for the discussion of relevant sector practices with other companies and the alignment of sectoral positioning. These forums also allow the exchange of good practices and participation in broader initiatives and in conjunction with other actors. The main associations in which CTG Brasil participates are:

- Brazilian Association of Electric Power Generation Companies (Abrage) – integrates the council and working groups
- Brazilian Association of Business Communication (Aberje)
- Brazilian Association of Electric Energy Companies (ABCE) – participation in committees and working groups
- Brazilian Association of Chinese Companies (Abec)
- Brazilian Association of Clean Energy Generation (Abragel) – participation in working groups

- Brazilian Association of Energy Traders (Abraceel)
- Brazilian Association of Independent Electric Power Producers (Apine) – representation on the entity's board and involvement in working groups
- Brazilian Center for International Relations (CEBRI)
- Brazilian Committee on Large Dams
- Sapucaí-Mirim Committee
- Paranapanema Basin Committees
- Reputation Institute

### GRI 102-45 | Entities included in the consolidated financial statements

This report covers the subsidiaries of CTG Brasil. In addition to these, the Financial Statements consider the equity interests held by the company in companies over which there is no operational control.

### GRI 201-3 | Defined benefit plan obligations and other retirement plans

Only Rio Paranapanema maintains a defined benefit plan that has a membership rate of 21%. Pension payment obligations are met through a fund held and maintained separately from the resources of CTG Brasil (closed pension fund), with all plan liabilities fully covered by assets. Participants contribute an average of 9.49% of their salary and the company complements it with a contribution equivalent to 5.43% (defined benefit, voluntary membership, with equal and voluntary compensation of up to 2.5%). The other subsidiaries offer defined contribution plans.

### GRI 302-1 | Energy consumption within the organization

#### Total energy consumption by source (GJ)

	2021	2020	2019
<b>Non-renewable fuels</b>	<b>9,656.7</b>	<b>9,189.9</b>	<b>9,104.6</b>
Diesel	5,568.4	5,235.2	5,155.4
Gasoline	2,928.4	2,980.3	3,499.3
Other - emergency auxiliary group (diesel replacement)	1,160.0	974.5	450.0
<b>Renewable fuels</b>	<b>181.3</b>	<b>76.8</b>	<b>267.8</b>
Ethanol	181.3	76.8	267.8
Electricity	865.9	12,857.2	156.0
<b>Total</b>	<b>10,703.9</b>	<b>22,123.9</b>	<b>9,528.4</b>

## GRI 304-4 | IUCN Red List species and national conservation list species with habitats in areas affected by operations

### Species identified in 2021 according to IUCN classification

	Critically Endangered (CR)	Endangered (EN)	Vulnerable (VU)	Near Threatened (NT)
Rio Paraná	-	ICHTHIOFAUNA: Jaú ( <i>Zungaro jahu</i> ), pintado ( <i>Pseudoplatystoma corruscans</i> ), jurupoca ( <i>Hemisorubim platyrhynchos</i> ), pacu guaçu ( <i>Piaractus mesopotamicus</i> ), piracanjuba ( <i>Brycon orbignyanus</i> )	-	-
Rio Paranapanema	-	ICHTHIOFAUNA: Jaú ( <i>Zungaro jahu</i> ), pintado ( <i>Pseudoplatystoma corruscans</i> ), jurupoca ( <i>Hemisorubim platyrhynchos</i> ), pacu guaçu ( <i>Piaractus mesopotamicus</i> ), piracanjuba ( <i>Brycon orbignyanus</i> )	WILD FAUNA: Tapir ( <i>Tapirus terrestris</i> ), howler monkey ( <i>Alouatta guariba</i> )	WILD FAUNA: Maned wolf ( <i>Crysocyon brachyurus</i> ), otter ( <i>Lontra longicaudis</i> ), jaguar ( <i>Panthera onca</i> ) blue-fronted parrot ( <i>Amazona aestiva</i> )
Rio Canoas	FLORA: Araucaria ( <i>Araucaria angustifolia</i> ), xaxim ( <i>Dicksonia sellowiana</i> )	WILD FAUNA: Tapiti ( <i>Sylvilagus brasiliensis</i> )	FLORA: ( <i>Smallanthus riograndensis</i> ), rose cedar ( <i>Cedrela fissilis</i> )	-
Rio Verde	-	-	WILD FAUNA: Giant anteater ( <i>Myrmecophaga tridactyla</i> ), black-billed toucan ( <i>Ramphastus vitellinus</i> ), tapir ( <i>Tapirus terrestris</i> )	WILD FAUNA: Red-fronted conure ( <i>Aratinga auricapillus</i> ), black howler ( <i>Alouatta caraya</i> ), rhea ( <i>Rhea americana</i> ), dark-breasted cape ( <i>Sporophila ruficollis</i> ), maned wolf ( <i>Crysocyon brachyurus</i> )

## GRI 307-1 and 419-1 | Non-compliance with environmental laws and regulations and Non-compliance with laws and regulations in the social and economic area

CTG Brasil did not record any significant fines or sanctions in 2021 related to economic, environmental or social aspects. Fines or definitive sanctions that may interrupt, suspend or cease the company's activities, significantly impact the result for the period or that have a value equal to or greater than R\$ 10 million are considered significant.



**GRI 401-1 | New employee hires and employee turnover****Hiring**

	2021		2020		2019	
	Number of hires	Hiring rate*	Number of hires	Hiring rate*	Number of hires	Hiring rate*
<b>By gender</b>						
Men	72	9.5%	84	11.4%	151	22.3%
Women	38	20.8%	24	13.6%	30	17.3%
<b>By age group</b>						
Up to 30 years	52	23.9%	64	27.3%	97	46.1%
From 31 to 40 years old	47	14.2%	31	10.5%	63	23.6%
From 41 to 50 years old	9	3.8%	11	4.5%	18	7.9%
Over 50 years	2	1.3%	2	1.4%	3	2.1%
<b>By company</b>						
Rio Paraná	25	7.2%	37	10.9%	58	18.0%
Rio Paranapanema	24	7.8%	29	9.5%	68	24.5%
Rio Canoas	4	15.7%	3	12.1%	1	3.6%
Rio Verde	2	9.7%	3	14.3%	4	20.0%
CTG Serviços (CSC)	8	13.5%	8	11.2%	12	19.0%
CTG Trading	2	70.6%	na	na	na	na
Corporate	45	26.0%	28	18.5%	38	27.3%
<b>Consolidated</b>	<b>110</b>	<b>11.7%</b>	<b>108</b>	<b>11.8%</b>	<b>181</b>	<b>21.3%</b>

\*Calculated as the number of hires divided by the average headcount for the year.

## Dismissals

	2021		2020		2019	
	Number of dismissals	Turnover rate*	Number of dismissals	Turnover rate*	Number of dismissals	Turnover rate*
<b>By gender</b>						
Men	66	8.8%	43	5.8%	79	11.7%
Women	24	13.1%	17	9.6%	38	21.9%
<b>By age group</b>						
Up to 30 years	23	10.6%	20	8.5%	23	10.9%
From 31 to 40 years old	39	11.8%	23	7.8%	47	17.6%
From 41 to 50 years old	18	7.6%	4	1.6%	18	7.9%
Over 50 years	10	6.6%	13	9.3%	29	20.1%
<b>By company</b>						
Rio Paraná	25	7.2%	28	8.3%	46	14.2%
Rio Paranapanema	23	7.5%	6	2.0%	22	7.9%
Rio Canoas	5	19.7%	4	16.1%	2	7.1%
Rio Verde	1	4.8%	0	0.0%	4	20.0%
CTG Serviços (CSC)	7	11.8%	5	7.0%	11	17.5%
CTG Trading	1	35.3%	na	na	na	na
Corporate	28	16.2%	17	11.2%	32	23.0%
<b>Consolidated</b>	<b>90</b>	<b>9.6%</b>	<b>60</b>	<b>6.6%</b>	<b>117</b>	<b>13.8%</b>

\*Calculated as the number of dismissals divided by the average headcount for the year.



### GRI 404-3 | Percentage of employees receiving regular performance and career development reviews

#### Percentage of employees evaluated\*

	2021	2020	2019
<b>By gender</b>			
Men	103.0%	102.5%	112.4%
Women	106.3%	106.7%	105.5%
<b>By functional level</b>			
Executive Board	96.2%	100.0%	152.6%
Managerial	102.9%	103.0%	105.8%
Production	102.9%	101.6%	106.5%
Administrative	105.1%	106.0%	116.1%
<b>Consolidated</b>	<b>103.6%</b>	<b>103.3%</b>	<b>110.9%</b>

\*Percentages greater than 100% are for cases in which the number of people who completed the assessment cycle was greater than the headcount on 12/31.

### GRI EU5 | Allocation of CO<sub>2</sub> e emissions allowances or equivalent, broken down by carbon trading framework

CTG Brasil does not trade carbon credits.

### GRI EU30 | Average plant availability factor by energy source and by regulatory regime

#### Generation availability (%)\*

	Regulatory Limit	2021	2020	2019
Ilha Solteira HPP	89.58%	95.36%	94.44%	93.88%
Jupia HPP	89.58%	91.16%	91.44%	92.31%
<b>Rio Paraná (average)</b>	<b>89.58%</b>	<b>94.05%</b>	<b>93.51%</b>	<b>93.39%</b>
Jurumirim HPP	92.83%	98.90%	99.22%	99.33%
Chavantes HPP	92.32%	98.35%	98.30%	98.47%
Salto Grande HPP	93.37%	97.27%	96.58%	97.48%
Canoas II HPP	93.37%	97.40%	97.87%	98.22%
Canoas I HPP	93.37%	97.22%	97.03%	97.41%
Capivara HPP	92.32%	98.30%	98.34%	98.30%
Taquaruçu HPP	92.32%	96.63%	96.76%	95.41%
Rosana HPP	92.32%	97.08%	97.57%	97.43%
<b>Rio Paranapanema (average)</b>	<b>92.45%</b>	<b>97.66%</b>	<b>97.76%</b>	<b>97.51%</b>
<b>Garibaldi HPP (Rio Canoas)</b>	<b>92.32%</b>	<b>98.04%</b>	<b>98.01%</b>	<b>98.43%</b>
<b>Salto HPP (Rio Verde)</b>	<b>92.83%</b>	<b>97.07%</b>	<b>96.60%</b>	<b>96.44%</b>
<b>CTG Brasil (average)</b>	<b>90.56%</b>	<b>95.28%</b>	<b>94.94%</b>	<b>94.80%</b>

\*The availability index is calculated using the TEIP and the TEIfa (equivalent rates of scheduled and forced unavailability, respectively, considering 60 calculated monthly values, relating to the months immediately prior to the current month). Its calculation formula is:  $ID = (1 - TEIP) * (1 - TEIfa)$ . The values refer to the month of December each year.

# GRI content index



GRI Standard	Disclosure	Page	Omissions	Global Compact	SDG
<b>GRI 101   Foundation 2016</b>					
<b>General disclosures</b>					
	<b>Organizational profile</b>				
	102-1   Name of the organization	9	-	-	-
	102-2   Activities, brands, products, and services	11	-	-	-
	102-3   Location of headquarters	3	-	-	-
	102-4   Location of operations	12	-	-	-
	102-5   Ownership and legal form	16	-	-	-
	102-6   Markets served	11	-	-	-
	102-7   Scale of the organization	11, 30 and 48	-	-	-
	102-8   Information on employees and other workers	48 and 65	-	6	8 and 10
	102-9   Supply chain	20	-	-	-
GRI 102   General disclosures 2016	102-10   Significant changes to the organization and its supply chain	22	-	-	-
	102-11   Precautionary Principle or approach	7, 8, 41 and 55	-	-	-
	102-12   External initiatives	15	-	-	-
	102-13   Membership of associations	66	-	-	-
		<b>Strategy</b>			
	102-14   Statement from senior decision-maker	4, 5 and 6	-	-	-
	102-15   Key impacts, risks, and opportunities	14, 15 and 20	-	-	-
	<b>Ethics and integrity</b>				
	102-16   Values, principles, standards, and norms of behavior	17 and 45	-	10	16
	102-17   Mechanisms for advice and concerns about ethics	19	-	10	16
	<b>Governance</b>				
	102-18   Governance structure	16	-	-	-

For the Materiality Disclosures Service, GRI Services reviewed that the GRI content index is clearly presented and the references for Disclosures 102-40 to 102-49 align with appropriate sections in the body of the report. The service was performed on the Portuguese version of the report.



GRI Standard	Disclosure	Page	Omissions	Global Compact	SDG
	<b>Stakeholder engagement</b>				
	102-40   List of stakeholder groups	21 and 64	-	-	-
	102-41   Collective bargaining agreements	65	-	3	8
	102-42   Identifying and selecting stakeholders	21 and 64	-	-	-
	102-43   Approach to stakeholder engagement	21 and 64	-	-	-
	102-44   Key topics and concerns raised	64	-	-	-
	<b>Reporting practice</b>				
GRI 102   General disclosures 2016	102-45   Entities included in the consolidated financial statements	66	-	-	-
	102-46   Defining report content and topic Boundaries	64	-	-	-
	102-47   List of material topics	64	-	-	-
	102-48   Restatements of information	57	-	-	-
	102-49   Changes in reporting	64	-	-	-
	102-50   Reporting period	3	-	-	-
	102-51   Date of most recent report	3	-	-	-
	102-52   Reporting cycle	3	-	-	-
	102-53   Contact point for questions regarding the report	3	-	-	-
	102-54   Claims of reporting in accordance with the GRI Standards	3	-	-	-
	102-55   GRI content index	71, 72, 73, 74, 75 and 76	-	-	-
	102-56   External assurance	3	-	-	-
	GRI Electric utilities sector supplement 2013	EU1   Installed capacity, broken down by primary energy source and by regulatory regime	11 and 12	-	-
EU2   Net energy output broken down by primary energy source and by regulatory regime		11	-	-	7 and 14
EU5   Allocation of CO <sub>2</sub> emissions allowances or equivalent, broken down by carbon trading framework		70	-	-	13, 14 and 15

GRI Standard	Disclosure	Page	Omissions	Global Compact	SDG
<b>Material topic   Ethics, compliance and anti-corruption</b>					
GRI 103   Management approach 2016 <sup>1</sup>	103-1   Explanation of the material topic and its Boundary	17, 18, 19 and 20	-	-	-
	103-2   The management approach and its components	17, 18, 19 and 20	-	-	-
	103-3   Evaluation of the management approach	17, 18, 19 and 20	-	-	-
GRI 205   Anti-corruption 2016	205-1   Operations assessed for risks related to corruption	17 and 20	-	10	16
	205-2   Communication and training about anti-corruption policies and procedures	18	-	10	16
	205-3   Confirmed incidents of corruption and actions taken	19	-	10	16
GRI 307   Environmental compliance 2016	307-1   Non-compliance with environmental laws and regulations	67	-	8	16
GRI 408   Child labor 2016	408-1   Operations and suppliers at significant risk for incidents of child labor	17	-	5	8 and 16
GRI 409   Forced or compulsory labor 2016	409-1   Operations and suppliers at significant risk for incidents of forced or compulsory labor	17	-	4	8
GRI 412   Human rights assessment 2016	412-3   Significant investment agreements and contracts that include human rights clauses or that underwent human rights screening	17	-	-	-
GRI 419   Socioeconomic compliance 2016	419-1   Non-compliance with laws and regulations in the social and economic area	67	-	-	16
<b>Material topic   Local development</b>					
GRI 103   Management approach 2016 <sup>2</sup>	103-1   Explanation of the material topic and its Boundary	60, 61, 62 and 63	-	-	-
	103-2   The management approach and its components	60, 61, 62 and 63	-	-	-
	103-3   Evaluation of the management approach	60, 61, 62 and 63	-	-	-
GRI 201   Economic performance 2016	201-1   Direct economic value generated and distributed	30	-	-	8 and 9
GRI 203   Indirect economic impacts 2016	203-1   Infrastructure investments and services supported	60, 61 and 62	-	-	5, 9 and 11
GRI 413   Local communities 2016	413-1   Operations with local community engagement, impact assessments, and development programs	60, 61, 62 and 63	-	1	-

1. The management approach refers to all GRI topics listed within the material topic "Ethics, compliance and anti-corruption."

2. The management approach refers to all GRI topics listed within the material topic "Local development."



GRI Standard	Disclosure	Page	Omissions	Global Compact	SDG
<b>Material topic   Transparency and relationship with stakeholders</b>					
GRI 103   Management approach 2016	103-1   Explanation of the material topic and its Boundary	14, 15 and 21	-	-	-
	103-2   The management approach and its components	14, 15 and 21	-	-	-
	103-3   Evaluation of the management approach	14, 15 and 21	-	-	-
<b>Material topic   Infrastructure and safety of the operation and the employee</b>					
GRI 103   Management approach 2016 <sup>3</sup>	103-1   Explanation of the material topic and its Boundary	41, 42, 43, 44, 58 and 59	-	-	-
	103-2   The management approach and its components	41, 42, 43, 44, 58 and 59	-	-	-
	103-3   Evaluation of the management approach	41, 42, 43, 44, 58 and 59	-	-	-
GRI 403   Occupational health and safety 2018	403-1   Occupational health and safety management system	41	-	-	8
	403-2   Hazard identification, risk assessment, and incident investigation	43	-	-	8
	403-3   Occupational health services	44 and 49	-	-	8
	403-4   Worker participation, consultation, and communication on occupational health and safety	42 and 43	-	-	8 and 16
	403-5   Worker training on occupational health and safety	42 and 43	-	-	8
	403-6   Promotion of worker health	44 and 45	-	-	3
	403-7   Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	49	-	-	8
	403-8   Workers covered by an occupational health and safety management system	41	-	-	8
	403-9   Work-related injuries	44	-	-	3, 8 and 16
	403-10   Work-related ill health	44	-	-	3, 8 and 16
GRI Electric utilities sector supplement 2013	EU16   Policies and requirements regarding health and safety of employees and employees of contractors and subcontractors	43	-	-	8
	EU18   Percentage of contractor and subcontractor employees that have undergone relevant health and safety training	43	-	-	8
	EU21   Contingency planning measures, disaster/emergency management plan and training programs, and recovery/restoration plans	58 and 59	-	-	1 and 11
	EU25   Number of injuries and fatalities to the public involving company assets including legal judgments, settlements and pending legal cases of diseases	59	-	-	-

3. The management approach refers to all GRI topics and sector disclosures listed within the material topic "Infrastructure and safety of the operation and the employee."

GRI Standard	Disclosure	Page	Omissions	Global Compact	SDG
<b>Material topic   Promotion of energy from renewable sources</b>					
GRI 103   Management approach 2016 <sup>4</sup>	103-1   Explanation of the material topic and its Boundary	36, 37, 53 and 54	-	-	-
	103-2   The management approach and its components	36, 37, 53 and 54	-	-	-
	103-3   Evaluation of the management approach	36, 37, 53 and 54	-	-	-
GRI 201   Economic performance 2016	201-2   Financial implications and other risks and opportunities due to climate change	36, 37 and 53	-	7	13
GRI 302   Energy 2016	302-1   Energy consumption within the organization	66	-	7 and 8	7, 8, 12 and 13
GRI 305   Emissions 2016	305-1   Direct (Scope 1) GHG emissions	54	-	7 and 8	3, 12, 13, 14 and 15
	305-2   Energy indirect (Scope 2) GHG emissions	54	-	7 and 8	3, 12, 13, 14 and 15
	305-3   Other indirect (Scope 3) GHG emissions	54	-	7 and 8	3, 12, 13, 14 and 15
	305-4   GHG emissions intensity	54	-	8	13, 14 and 15
<b>Material topic   Preservation of biodiversity and water resources</b>					
GRI 103   Management approach 2016 <sup>5</sup>	103-1   Explanation of the material topic and its Boundary	50, 51, 52, 55, 56 and 57	-	-	-
	103-2   The management approach and its components	50, 51, 52, 55, 56 and 57	-	-	-
	103-3   Evaluation of the management approach	50, 51, 52, 55, 56 and 57	-	-	-
GRI 303   Water and effluents 2018	303-1   Interactions with water as a shared resource	56	-	8	6 and 12
	303-2   Management of water discharge-related impacts	56	-	8	6
	303-3   Water withdrawal	56	-	7 and 8	6
	303-5   Water consumption	56	-	8	6
GRI 304   Biodiversity 2016	304-1   Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	50, 51 and 52	-	8	6, 14 and 15
	304-2   Significant impacts of activities, products, and services on biodiversity	51	-	8	6, 14 and 15
	304-3   Habitats protected or restored				
	304-4   IUCN Red List species and national conservation list species with habitats in areas affected by operations	52 and 67	-	8	6, 14 and 15
GRI 306   Waste 2020	306-1   Waste generation and significant waste-related impacts	57	-	8	3, 6, 11 and 12
	306-2   Management of significant waste-related impacts	57	-	8	3, 6, 11 and 12
	306-4   Waste diverted from disposal	57	-	8	3, 11 and 12
	306-5   Waste directed to disposal	57	-	8	3, 11 and 12

4. The management approach refers to all GRI topics listed within the material topic "Promotion of energy from renewable sources."

5. The management approach refers to all GRI topics listed within the material topic "Preservation of biodiversity and water resources."



GRI Standard	Disclosure	Page	Omissions	Global Compact	SDG
<b>Material topic   Reliable power generation</b>					
GRI 103   Management approach 2016	103-1   Explanation of the material topic and its Boundary	7, 8, 9, 10, 13, 22, 23, 24, 25, 26, 27 and 28	-	-	-
	103-2   The management approach and its components	7, 8, 9, 10, 13, 22, 23, 24, 25, 26, 27 and 28	-	-	-
	103-3   Evaluation of the management approach	7, 8, 9, 10, 13, 22, 23, 24, 25, 26, 27 and 28	-	-	-
GRI Electric utilities sector supplement 2013	EU6   Management approach to ensure short and long-term electricity availability and reliability	7, 8, 9, 10, 13, 22, 23, 24, 25, 26, 27 and 28	-	-	7
	EU30   Average plant availability factor by energy source and by regulatory regime	10 and 70	-	-	1 and 7
<b>Material topic   Business innovation</b>					
GRI 103   Management approach 2016	103-1   Explanation of the material topic and its Boundary	34, 35, 38, 39 and 40	-	-	-
	103-2   The management approach and its components	34, 35, 38, 39 and 40	-	-	-
	103-3   Evaluation of the management approach	34, 35, 38, 39 and 40	-	-	-
GRI Electric utilities sector supplement 2013	EU8   Research and development activity and expenditure aimed at providing reliable electricity and promoting sustainable development	34 and 35	-	-	7, 9 and 17
<b>Material topic   People management</b>					
GRI 103   Management approach 2016 <sup>6</sup>	103-1   Explanation of the material topic and its Boundary	45, 46, 47 and 49	-	-	-
	103-2   The management approach and its components	45, 46, 47 and 49	-	-	-
	103-3   Evaluation of the management approach	45, 46, 47 and 49	-	-	-
GRI 201   Economic performance 2016	201-3   Defined benefit plan obligations and other retirement plans	66	-	-	-
GRI 401   Employment 2016	401-1   New employee hires and employee turnover	48 and 68	-	6	5, 8 and 10
	401-2   Benefits provided to full-time employees that are not provided to temporary or part-time employees	46	-	-	3, 5 and 8
GRI 404   Training and education 2016	404-1   Average hours of training per year per employee	48	-	6	4, 5, 8 and 10
	404-2   Programs for upgrading employee skills and transition assistance programs	46 and 47	-	-	8
	404-3   Percentage of employees receiving regular performance and career development reviews	47 and 70	-	6	5, 8 and 10

6. The management approach refers to all GRI topics listed within the material topic "People management."

# Aneel indicators

Click at the names of the companies to be directed to the respective section of Aneel tables.

- [Rio Paraná](#)
- [Rio Canoas](#)
- [Rio Paranapanema](#)
- [Rio Verde](#)

## Rio Paraná Energia

### Operational and Productivity Indicators

Technical data (inputs, production capacity, sales, losses)	2021	2020	2019
Energy generated (GWh)	14,930.3	21,325.5	20,609.0
Ilha Solteira HPP	9,393.2	13,522.5	13,033.3
Jupiá HPP	5,537.2	7,803.1	7,575.7
Energy sold (GWh) <sup>1</sup>	19,664.2	20,010.9	21,336.8
Installed capacity (MW)	4,995.2	4,995.2	4,995.2

<sup>1</sup> It considers quotas and sales contracts and does not consider Short Term Trading (MCP) and Energy Reallocation Mechanisms (MRE).

### Governance Indicators

Governance – Managers	2021				2020				2019			
	BD	EB	FC <sup>1</sup>	Total	BD	EB	FC <sup>1</sup>	Total	BD	EB	FC <sup>1</sup>	Total
Number of members	6	6	0	12	6	7	0	13	4	3	0	7
Number of paid members	0	2	0	2	0	2	0	2	0	2	0	2
<b>Annual fixed remuneration (R\$ thousand)</b>												
Salary or pro-labore	0	2,043	0	2,043	0	1,972	0	1,972	0	1,959	0	1,959
Direct or indirect benefits	0	275	0	275	0	304	0	304	0	287	0	287
Committee participations	0	0	0	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0	0	0	0
<b>Variable remuneration (R\$ thousand)</b>												
Bonus	0	126	0	126	0	0	0	0	0	0	0	0
Profit sharing	0	713	0	713	0	830		830	0	799	0	799
Participation in meetings	0	0	0	0	0	0	0	0	0	0	0	0
Committees	0	0	0	0	0	0	0	0	0	0	0	0
Other	0	180	0	180	0	151	0	151	0	134	0	134
Post-employment	0	0	0	0	0	0	0	0	0	0	0	0
Termination of office	0	0	0	0	0	0	0	0	0	0	0	0
Stock-based	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total remuneration</b>	<b>0</b>	<b>3,336</b>	<b>0</b>	<b>3,336</b>	<b>0</b>	<b>3,256</b>	<b>0</b>	<b>3,256</b>	<b>0</b>	<b>3,807</b>	<b>0</b>	<b>3,807</b>

BD: Board of Directors | EB: Executive Board | FC: Fiscal Council  
1. There is no Fiscal Council installed.



## Economic and Financial Indicators

<b>Wealth Generation – Value Added Statement (R\$ thousand)<sup>1</sup></b>	<b>2021</b>	<b>2020</b>	<b>2019</b>
<b>Revenues</b>	<b>4,006,933</b>	<b>3,378,027</b>	<b>3,136,521</b>
Energy sales and services	3,088,377	2,960,058	2,871,186
Revenue from financial assets	918,556	417,969	265,335
<b>Inputs purchased from third parties</b>	<b>(430,993)</b>	<b>(457,741)</b>	<b>(867,969)</b>
Purchased energy and network usage charges	(441,845)	(320,606)	(734,654)
Recovery of energy purchase costs through the extension of the concession (GSF Agreement)	147,862	0	0
Third party materials and services	(114,710)	(118,428)	(111,719)
Other operational costs	(22,300)	(18,707)	(21,596)
<b>Gross value added</b>	<b>3,575,940</b>	<b>2,920,286</b>	<b>2,268,552</b>
Depreciation and amortization	(267,694)	(252,243)	(250,997)
<b>Net added value produced</b>	<b>3,308,246</b>	<b>2,668,043</b>	<b>2,017,555</b>
<b>Value added received in transfer</b>	<b>558,005</b>	<b>708,749</b>	<b>770,267</b>
Equity equivalence result	1,929	(433)	(628)
Other financial revenues	556,076	709,182	770,895
<b>Total value added to be distributed</b>	<b>3,866,251</b>	<b>3,376,792</b>	<b>2,787,822</b>

1. Based on financial statements.

<b>Distribution of value added (R\$ thousand)<sup>1</sup></b>	<b>2021</b>	<b>2020</b>	<b>2019</b>
<b>Staff</b>	<b>76,354</b>	<b>71,607</b>	<b>71,685</b>
Direct remuneration	47,122	42,008	44,932
Benefits	16,540	17,673	15,651
FGTS	3,547	3,480	3,779
Provision for bonus	221	502	0
Profit sharing	8,924	7,944	7,323
<b>Government – Taxes, fees and contributions</b>	<b>669,065</b>	<b>401,509</b>	<b>149,213</b>
Federal	644,761	364,814	70,844
State	142	646	8
Municipal	24,162	36,049	78,361
<b>Financiers – Remuneration of third-party capital</b>	<b>1,397,252</b>	<b>1,768,315</b>	<b>1,362,953</b>
Rentals	1,115	1,438	1,252
Other financial expenses	1,396,137	1,766,877	1,361,701
<b>Shareholders – Return on equity</b>	<b>1,723,580</b>	<b>1,135,361</b>	<b>1,203,971</b>
Interest on equity capital	400,000	380,000	466,999
Dividends	9,351	0	0
Retained earnings/loss for the year	1,314,229	755,361	736,972
<b>Value Added Distributed (total)</b>	<b>3,866,251</b>	<b>3,376,792</b>	<b>2,787,822</b>

1. Based on financial statements.

<b>Investments (R\$ thousand)</b>	<b>2021</b>	<b>2020</b>	<b>2019</b>
Modernization	278,859	244,178	535,311
Maintenance	19,983	56,186	13,187
Other	9,658	0	0
<b>Total</b>	<b>308,500</b>	<b>300,364</b>	<b>548,498</b>

## Internal Social Indicators

Employees/employability/managers	2021	2020	2019
<b>a) General information</b>			
Total number of employees	347	340	332
Number of contractors (contractors, subcontractors, freelancers) by employment type, employment contract and region	134	128	124
Employees up to 30 years old (%)	17.9%	17.10%	16.00%
Employees aged between 31 and 40 (%)	30.8%	30.00%	28.90%
Employees aged between 41 and 50 (%)	28.5%	30.90%	30.70%
Employees aged over 50 (%)	22.8%	22.10%	24.40%
Women in relation to total employees (%)	9.5%	8.50%	8.10%
Women in managerial positions – in relation to total managerial positions (%)	8.0%	5.90%	6.30%
Black female employees in relation to total female employees (%)	2.0%	1.50%	1.20%
Black male employees in relation to total male employees (%)	25.9%	26.80%	22.90%
Black (black and mixed race) employees in managerial positions in relation to total managerial positions (%)	12.0%	11.80%	12.50%
Interns in relation to total employees (%)	1.2%	0.30%	2.40%
Employees of the apprentice hiring program (Nº)	0	0	3
Employees with disabilities (Nº)	1	1	1
<b>b) Remuneration, benefits and career (R\$ thousand)</b>			
<b>Remuneration</b>			
Gross payroll	72,475	66,969	84,080
Compulsory social charges	15,921	14,426	16,174
<b>Benefits</b>			
Education	335	339	279
Food	5,645	5,935	5,034
Transportation	2,006	1,820	1,186
Health	4,537	5,455	4,941
Foundation (private pension)	1,794	1,873	1,939
Safety and occupational medicine	582	505	368
Culture	0	0	0
Training and professional development	671	274	475
Day care or day care allowance	24	0	26
Employee profit-sharing	8,924	7,944	7,323
Other (housing, life insurance, gift voucher)	629	418	692
<b>c) Profit-sharing</b>			
Total investment in the company's profit-sharing program (R\$ thousand)	8,924	7,944	7,323
Distributed values in relation to gross payroll (%)	12.30%	11.90%	8.70%
Division of the highest remuneration for the lowest remuneration paid by the one granted	30.25	36.09	31.13
Division of the company's lowest remuneration by the minimum wage in force	2.16	1.77	2.04
<b>d) Remuneration profile – average salary in the current year (R\$)</b>			
Board positions	49,892	41,493	42,419
Managerial positions	20,374	19,479	18,937
Administrative positions	8,247	9,042	7,024
Production positions	6,268	5,411	6,311



## Internal Social Indicators

Employees/employability/managers	2021	2020	2019
<b>e) Health and safety</b>			
Average overtime per employee/year	130.1	117.6	180.1
Total company TF (frequency rate) index in the period, for employees	1.15	0	0
TG index (severity rate) in the period, for employees	0.00	0	0
Total company TF (frequency rate) index in the period, for subcontractors/contractors	3.77	4.35	3.3
TG index (severity rate) in the period, for subcontractors/contractors	0.00	3,731.00	3,300.10
TF index (frequency rate) of the company in the period for the workforce (own + third parties)	2.73	2.44	187
TG index (severity rate) in the period for the workforce (own + third parties)	0.00	1,830.00	1,873.00
Deaths – own	0	0	0
Deaths – third parties	0	1	1
Lost day rate for employees <sup>1</sup>	0.00	0	ND
Absenteeism rate	ND	ND	ND
<b>f) Professional development</b>			
Elementary school (% over total employees)	0.60%	0.60%	1.20%
High school (% over total employees)	34.3%	35.90%	39.20%
Technical instruction (% over total employees)	15.0%	12.10%	7.20%
Tertiary education (% over total employees)	35.2%	37.10%	38.60%
Postgraduate – specialization, master's, doctorate (% over total employees)	15.0%	14.40%	13.90%
Amount invested in professional development and education (R\$ thousand)	1,007	613	754
<b>Average hours of training per employee, broken down by functional category</b>			
Executive Board	17.8	10.3	55.3
Management	59.5	45.7	64.4
Administrative	44.2	36	40.7
Operational	95.6	50.5	51.8
Total training hours per employee/year	54.2	35.6	50.1
<b>g) Behavior in the face of dismissals</b>			
Number of employees at the end of the period	347	340	332
Number of admissions during the period	25	37	58
Turnover rate	7.2%	8.30%	14.20%
<b>Labor complaints</b>			
Amount provisioned in the period (R\$ million)	1,419.7	173.8	0
Number of labor lawsuits filed against the company in the period	30	20	7
Number of labor lawsuits found to be justified in the period	1	0	0
Number of labor lawsuits found to be unfounded in the period	7	0	37
Total amount of indemnities and fines paid for the period (R\$ thousand)	0	0	0
<b>h) Preparation for retirement</b>			
Investments in supplementary pension (R\$ thousand)	1,794.7	1,873	1,939
Number of beneficiaries of the supplementary pension program	317	305	288

1. In this case, lost days are considered only absences for accidents and occupational diseases.

## External Social Indicators

Communities	2021	2020	2019
<b>Health and safety impacts</b>			
Total number of accidents without deaths in the population	0	0	0
Total number of deaths in the population	0	0	0
Lawsuits arising out of accidents with the population – General Litigation Basis	0	0	0
<b>Company involvement with social action</b>			
Resources invested in education (R\$ thousand)	2,091	2,126	2,290
Resources invested in health and sanitation (R\$ thousand)	2,531	2,550	1,917
Resources invested in culture (R\$ thousand)	5,073	3,210	2,544
Resources invested in sports (R\$ thousand)	1,616	1,275	1,100
Other resources invested in social actions (R\$ thousand)	0	0	0
Employees carrying out volunteer work in the community outside the company/total employees (%)	NA	NA	22%
Quantity of monthly hours donated (released from normal working hours) by the company for voluntary employee work	0	0	0
<b>Involvement of the company in cultural, sports and social projects (Rouanet Law, Sports Incentive Law, Pronon, Pronas, Childhood and Adolescence Fund, Elderly Fund)</b>			
Amount of resources allocated to projects (R\$ thousand)	11,313	9,161	7,851
Number of projects benefited	19	15	14
Amount of resources allocated to the largest project (R\$ thousand)	1,479	1,900	1,124
Project name	Sustentabilidade Ambiental na Garantia de Direitos da Pessoa Idosa	Projeto Trilhar – A Arte que Transforma	Projeto Guri
Proposer	Ação Social do Paraná	Weimar Empreendimentos Artísticos Ltda.	Sustenidos Organização Social de Cultura

## Electrical Sector Indicators

Resources applied in technological and scientific research and development by research theme (Manual of Research and Development – Aneel)	2021		2020		2019	
	Value (R\$ thd)	%	Value (R\$ thd)	%	Value (R\$ thd)	%
FA – Alternative Sources of Electric Power Generation	1,111.8	8.1%	923.8	7.30%	644.5	12.20%
GT – Thermoelectric Generation	0.0	0.0%	0	0.00%	0	0.00%
GB – Basin and Reservoir Management	633.8	4.6%	998.4	7.90%	44.5	0.80%
MA – Environment	3,563.6	26.1%	2,219.1	17.60%	1,526.2	28.90%
SE – Safety	3,762.0	27.5%	3,346.7	26.60%	415.3	7.90%
EF – Energy Efficiency	0.0	0.0%	0	0.00%	0	0.00%
PL – Electric Power Systems Planning	0.0	0.0%	4.8	0.00%	35.1	0.70%
OP – Electric Power Systems Operation	108.3	0.8%	548.4	4.40%	549.4	10.40%
SC – Supervision, Control and Protection of Electrical Power Systems	3.4	0.0%	427.5	3.40%	1,426.5	27.00%
QC – Quality and Reliability of Electric Power Services	0.0	0.0%	0	0.00%	0	0.00%
MF – Measuring, Billing and Combating Trade Losses	0.0	0.0%	0	0.00%	0	0.00%
OU – Other	4,492.9	32.9%	4,109.7	32.70%	643.3	12.20%
<b>Total</b>	<b>13,675.9</b>	<b>100%</b>	<b>12,578.4</b>	<b>100.00%</b>	<b>5,284.8</b>	<b>100.00%</b>



## Environmental Indicators

	2021	2020	2019
<b>Waste generation and treatment</b>			
<b>Emission</b>			
Annual volume of greenhouse gases (CO <sub>2</sub> , CH <sub>4</sub> , N <sub>2</sub> O, HFC, PFC, SF <sub>6</sub> ) emitted into the atmosphere (in tons of CO <sub>2</sub> equivalent)	899.0	1,422.60	2,370.00
Annual emissions of ozone depleting gases (in tons of CFC equivalent)	49.7	80	244.3
<b>Effluent</b>			
Total water discharge by quality and destination (m <sup>3</sup> /year)	3,854.5	43,910.00	ND
River (m <sup>3</sup> /year)	0	NA	ND
Wastewater Treatment Plant (m <sup>3</sup> /year)	1,713.1	22,160.00	ND
Municipal sanitation company (m <sup>3</sup> /year)	2,141.4	21,750.00	ND
<b>Solids</b>			
Annual quantity (in tons) of solid waste generated (garbage, waste, rubble etc.)	797	120	72.2
Amount of PCB contaminated waste (ascarel) destined (kg)	0	0	0
<b>Use of resources in the production process and management processes of the organization</b>			
<b>Total energy consumption by source (GJ)</b>			
	<b>3,981.8</b>	<b>13,371.00</b>	<b>3,655.00</b>
Non-renewable fuels (GJ)	3,238.8	3,154.60	3,616.30
Diesel (GJ)	2,592.2	2,349.10	2,929.40
Gasoline (GJ)	567.9	635.1	617.3
Natural gas (GJ)	0	0	0
Other – Emergency auxiliary group (diesel replacement) (GJ)	78.7	170.4	69.6
Renewable fuels (GJ)	119.4	17.3	37.2
Ethanol (GJ)	119.4	17.3	37.2
Electricity (GJ)	623.6	10,199.10	1.6
Electric power sold (GJ)	70,791,120	72,039,240	76,824,000
Energy consumption per GJ sold (GJ)	0.000056	0.000186	0.00048
<b>Total water consumption by source (m<sup>3</sup>)</b>			
	<b>17,209</b>	<b>57,692</b>	<b>141</b>
Supply (public network) (m <sup>3</sup> )	0	ND	ND
Underground source (well) (m <sup>3</sup> )	14,940	27,700	ND
Surface catchment (watercourses) (m <sup>3</sup> )	2,141	29,750	ND
Bottled mineral water (human consumption) (m <sup>3</sup> )	128	242	141
Total water consumption per employee (m <sup>3</sup> )	49.60	169.68	0.43
<b>Environmental education and awareness</b>			
<b>Environmental education – In the organization</b>			
Number of employees trained in environmental education programs	45	60	265
Percentage of employees trained in environmental education programs/total employees	13%	18%	20%
Number of hours of environmental training/total hours of training	0.1%	0.10%	3.00%
<b>Environmental Education – Community</b>			
Number of elementary and high school units served	0	0	6
Number of students served	0	0	550
Number of trained teachers	0	0	0
Number of technical and higher education units served	0	0	1
Number of students served	0	0	45
Resources invested (R\$ thousand)	0	0	12

## Performance indicators

	2021	2020	2019
Power consumption of generating and auxiliary units (kWh)	24,362,637	24,236,756	21,093,178
Water consumption per kWh generated (maximum flow consumption (m <sup>3</sup> /s) per kWh delivered)	ND	ND	ND
Restoration of riparian forest (hectares)	100	95	100
Rescue of fish in turbines (kg)	1,600	324	1,800
Restocking of fish (number of fry)	2,117,500	2,100,000	2,100,000
Lubricant and hydraulic oil leakage in turbines (m <sup>3</sup> /year)	0	0.419	0
Recovery of areas degraded by the extraction of coal and its waste generated (recovered area unit – hectares per year)	NA	NA	NA
Recovery of areas degraded by the extraction of coal and its waste generated (commitment of resources in recovery and preservation projects) (R\$/year)	NA	NA	NA
Replacement water consumption during generation (m <sup>3</sup> /MWh)	NA	NA	NA



## Rio Paranapanema Energia

### Operational and Productivity Indicators

Technical data (inputs, production capacity, sales, losses)	2021	2020	2019
Energy generated (GWh)	5,381.4	6,540.40	7,740.80
Jurumirim HPP	209.0	286.8	279.4
Chavantes HPP	498.9	853.7	922.7
Salto Grande HPP	213.7	271.9	332.8
Canoas II HPP	199.0	273.7	308.4
Canoas I HPP	254.1	326.3	386
Capivara HPP	1,740.5	1,909.40	2,388.40
Taquaruçu HPP	1,072.7	1,232.30	1,502.40
Rosana HPP	1,159.2	1,301.5	1,523.4
Palmeiras SHP	15.1	40.6	46.8
Retiro SHP	19.2	44.3	50.5
Energy sold (GWh) <sup>1</sup>	5,381.4	8,664.2	8,634.1
Installed capacity (MW)	2,297.8	2,297.8	2,297.8

1. It considers quotas and sales contracts and does not consider Short Term Trading (MCP) and Energy Reallocation Mechanisms (MRE).

### Governance Indicators

Governance – Managers	2021				2020				2019			
	BD	EB	FC	Total	BD	EB	FC	Total	BD	EB	FC	Total
Number of members	6	5	6	17	6	5	6	17	6	5	6	17
Number of paid members	2	2	6	10	2	2	6	10	2	3	6	11
<b>Annual fixed remuneration (R\$ thousand)</b>												
Salary or pro-labore	379	1,504	945	2,828	360	1,343	923	2,627	415	730	902	2,047
Direct or indirect benefits	43	149	0	192	35	151	0	186	50	121	0	171
Committee participations	0	0	0	0	0	0	0	0	0	0	0	0
Other	0	0	189	0	0	0	185	185	177	303	180	660
<b>Variable remuneration (R\$ thousand)</b>												
Bonus	0	97	0	97	0	0	0	0	0	0	0	0
Profit sharing	80	763	0	843	78	834	0	912	36	-87	0	-51
Participation in meetings	0	0	0	0	0	0	0	0	0	0	0	0
Committees	0	0	0	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	4	4	0	0	27	27
Post-employment	27	171	0	198	23	121	0	145	20	48	0	68
Termination of office	0	0	0	0	0	0	0	0	0	0	0	0
Stock-based	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total remuneration</b>	<b>529</b>	<b>2,683</b>	<b>0</b>	<b>4,346</b>	<b>497</b>	<b>2,450</b>	<b>1,112</b>	<b>4,058</b>	<b>698</b>	<b>1,114</b>	<b>1,109</b>	<b>2,921</b>

BD: Board of Directors | EB: Executive Board | FC: Fiscal Council

## Economic and Financial Indicators

<b>Wealth Generation – Value Added Statement (R\$ thousand)</b>	<b>2021</b>	<b>2020</b>	<b>2019</b>
<b>Revenues</b>	<b>1,346,811</b>	<b>1,451,174</b>	<b>1,382,480</b>
Energy sales and services	1,346,811	1,451,174	1,382,480
<b>Inputs purchased from third parties</b>	<b>(825,573)</b>	<b>240,583</b>	<b>(568,779)</b>
Purchased energy and network usage charges	(753,033)	(510,248)	(464,866)
Recovery of energy purchase costs through the extension of the concession (GSF Agreement)	10,430	849,246	0
Third party materials and services	(72,546)	(83,459)	(77,567)
Other operational costs	(10,424)	(14,956)	(26,346)
<b>Gross value added</b>	<b>521,238</b>	<b>1,691,757</b>	<b>813,701</b>
Depreciation and amortization	(189,556)	(121,951)	(119,980)
<b>Net added value produced</b>	<b>331,682</b>	<b>1,569,806</b>	<b>693,721</b>
<b>Value added received in transfer</b>	<b>100,434</b>	<b>211,827</b>	<b>73,792</b>
Equity equivalence result	67,068	168,341	73,792
Other financial revenues	33,366	43,486	0
<b>Total value added to be distributed</b>	<b>432,116</b>	<b>1,781,633</b>	<b>767,513</b>
<b>Distribution of value added (R\$ thousand)<sup>1</sup></b>	<b>2021</b>	<b>2020</b>	<b>2019</b>
<b>Staff</b>	<b>74,753</b>	<b>71,851</b>	<b>71,393</b>
Direct remuneration	47,743	39,462	41,153
Benefits	14,198	19,796	17,702
FGTS	4,115	3,659	4,793
Provision for bonus	418	(596)	501
Profit sharing	7,632	6,458	3,775
Encargos sociais (exceto INSS)	647	3,072	3,469
<b>Government – Taxes, fees and contributions</b>	<b>2,532</b>	<b>387,197</b>	<b>179,327</b>
Federal	(24,166)	353,449	140,239
State	246	189	152
Municipal	26,452	33,559	38,936
<b>Financiers – Remuneration of third-party capital</b>	<b>301,769</b>	<b>556,885</b>	<b>203,663</b>
Rentals	2,734	1,684	2,199
Other financial expenses	299,035	555,201	201,464
<b>Shareholders – Return on equity</b>	<b>53,062</b>	<b>765,700</b>	<b>313,130</b>
Interest on equity capital	0	53,000	68,000
Dividends	0	276,867	245,130
Retained earnings/loss for the year	53,062	435,833	0
<b>Value Added Distributed (total)</b>	<b>432,116</b>	<b>1,781,633</b>	<b>767,513</b>
<b>Investments (R\$ thousand)</b>	<b>2021</b>	<b>2020</b>	<b>2019</b>
Modernization	846	3,372	7,889
Maintenance	6,736	25,793	25,613
Other	4,265	2,121	4,453
<b>Total</b>	<b>11,847</b>	<b>31,286</b>	<b>37,955</b>



## Internal Social Indicators

Employees/employability/managers	2021	2020	2019
<b>a) General information</b>			
Total number of employees	308	313	287
Number of contractors (contractors, subcontractors, freelancers) by employment type, employment contract and region	77	87	87
Employees up to 30 years old (%)	27.4%	30.70%	30.30%
Employees aged between 31 and 40 (%)	28.1%	26.50%	25.80%
Employees aged between 41 and 50 (%)	28.4%	28.80%	30.00%
Employees aged over 50 (%)	16.1%	14.10%	13.90%
Women in relation to total employees (%)	10.3%	9.30%	9.40%
Women in managerial positions – in relation to total managerial positions (%)	9.4%	6.30%	7.10%
Black female employees in relation to total female employees (%)	1.3%	1.00%	1.10%
Black male employees in relation to total male employees (%)	17.2%	16.00%	14.60%
Black (black and mixed race) employees in managerial positions in relation to total managerial positions (%)	6.3%	9.40%	3.60%
Interns in relation to total employees (%)	2.1%	1.60%	1.70%
Employees of the apprentice hiring program (Nº)	2	2	2
Employees with disabilities (Nº)	1	2	2
<b>b) Remuneration, benefits and career (R\$ thousand)</b>			
<b>Remuneration</b>			
Gross payroll	72,475	66,969	84,080
Compulsory social charges	15,921	14,426	16,174
<b>Benefits</b>			
Education	335	339	279
Food	5,645	5,935	5,034
Transportation	2,006	1,820	1,186
Health	4,537	5,455	4,941
Foundation (private pension)	1,794	1,873	1,939
Safety and occupational medicine	582	505	368
Culture	0	0	0
Training and professional development	671	274	475
Day care or day care allowance	24	0	26
Employee profit-sharing	8,924	7,944	7,323
Other (housing, life insurance, gift voucher)	629	418	692
<b>c) Profit-sharing</b>			
Total investment in the company's profit-sharing program (R\$ thousand)	7,485	6,458	3,775
Distributed values in relation to gross payroll (%)	11.1%	10.9%	5.3%
Division of the highest remuneration for the lowest remuneration paid by the one granted	35.64	34.62	30.56
Division of the company's lowest remuneration by the minimum wage in force	1.93	1.75	1.80
<b>d) Remuneration profile – average salary in the current year (R\$)</b>			
Board positions	66,867	58,257	49,684
Managerial positions	21,027	21,293	20,971
Administrative positions	7,278	7,771	6,405
Production positions	6,053	5,087	5,921

## Internal Social Indicators

Employees/employability/managers	2021	2020	2019
<b>e) Health and safety</b>			
Average overtime per employee/year	72.9	94	125,6
Total company TF (frequency rate) index in the period, for employees	0.00	0	0
TG index (severity rate) in the period, for employees	0.00	0	0
Total company TF (frequency rate) index in the period, for subcontractors/contractors	4.63	0	0
TG index (severity rate) in the period, for subcontractors/contractors	69.39	0	0
TF index (frequency rate) of the company in the period for the workforce (own + third parties)	1.21	0	0
TG index (severity rate) in the period for the workforce (own + third parties)	18.20	0	0
Deaths – own	0	0	0
Deaths – third parties	0	0	0
Lost day rate for employees <sup>1</sup>	0.00	0	0
Absenteeism rate	ND	0	0
<b>f) Professional development</b>			
Elementary school (% over total employees)	0.3%	0.30%	0.30%
High school (% over total employees)	9.2%	10.20%	11.80%
Technical instruction (% over total employees)	36.0%	36.10%	32.40%
Tertiary education (% over total employees)	34.6%	36.40%	38.00%
Postgraduate – specialization, master's, doctorate (% over total employees)	19.9%	16.90%	17.40%
Amount invested in professional development and education (R\$ thousand)	836	621	882
<b>Average hours of training per employee, broken down by functional category</b>			
Executive Board	13.9	37.5	47.5
Management	47.9	27.6	53.3
Administrative	43.7	23.8	33.4
Operational	103.3	52.7	100.1
Total training hours per employee/year	52.2	35.4	78.7
<b>g) Behavior in the face of dismissals</b>			
Number of employees at the end of the period	308	313	287
Number of admissions during the period	24	29	68
Turnover rate	7.5%	2.00%	7.90%
<b>Labor complaints</b>			
Amount provisioned in the period (R\$ million)	8,349.0	10.3	16.3
Number of labor lawsuits filed against the company in the period	11	8	20
Number of labor lawsuits found to be justified in the period	7	6	12
Number of labor lawsuits found to be unfounded in the period	2	18	20
Total amount of indemnities and fines paid for the period (R\$ thousand)	1,886,000	7,786	8,700
<b>h) Preparation for retirement</b>			
Investments in supplementary pension (R\$ thousand)	1,434	680	676
Number of beneficiaries of the supplementary pension program	299	276	106

1. In this case, lost days are considered only absences for accidents and occupational diseases.



## External Social Indicators

Communities	2021	2020	2019
<b>Health and safety impacts</b>			
Total number of accidents without deaths in the population	0	0	0
Total number of deaths in the population	0	0	0
Lawsuits arising out of accidents with the population – General Litigation Basis	0	0	0
<b>Company involvement with social action</b>			
Resources invested in education (R\$ thousand)	0	821	955
Resources invested in health and sanitation (R\$ thousand)	0	946	500
Resources invested in culture (R\$ thousand)	0	1,240	1,745
Resources invested in sports (R\$ thousand)	0	492	500
Other resources invested in social actions (R\$ thousand)	0	0	0
Employees carrying out volunteer work in the community outside the company/total employees (%)	NA	NA	62%
Quantity of monthly hours donated (released from normal working hours) by the company for voluntary employee work	0	0	4
<b>Involvement of the company in cultural, sports and social projects (Rouanet Law, Sports Incentive Law, Pronon, Pronas, Childhood and Adolescence Fund, Elderly Fund)</b>			
Amount of resources allocated to projects (R\$ thousand)	0	3,500	3,701
Number of projects benefited	0	10	7
Amount of resources allocated to the largest project (R\$ thousand)	0	910,000	755
Project name	-	Projeto Guri	My Dream
Proposer	-	Sustenidos Organização Social de Cultura	DellArte

## Electrical Sector Indicators

Resources applied in technological and scientific research and development by research theme (Manual of Research and Development – Aneel)	2021		2020		2019	
	Value (R\$ thd)	%	Value (R\$ thd)	%	Value (R\$ thd)	%
FA – Alternative Sources of Electric Power Generation	0	0.0%	0	0.00%	0	0.00%
GT – Thermoelectric Generation	0	0.0%	0	0.00%	0	0.00%
GB – Basin and Reservoir Management	0	0.0%	0	0.00%	0	0.00%
MA – Environment	2,937.5	35.7%	2,593.4	27.30%	1,522.70	29.50%
SE – Safety	0	0.0%	0	0.00%	0	0.00%
EF – Energy Efficiency	0	0.0%	0	0.00%	0	0.00%
PL – Electric Power Systems Planning	2,066.0	25.1%	1,070.30	11.30%	447.4	8.70%
OP – Electric Power Systems Operation	2,180.0	26.5%	2,703.70	28.40%	1,882.00	36.50%
SC – Supervision, Control and Protection of Electrical Power Systems	996.5	12.1%	3,119.50	32.80%	1,274.70	24.70%
QC – Quality and Reliability of Electric Power Services	0	0.0%	0	0.00%	0	0.00%
MF – Measuring, Billing and Combating Trade Losses	0	0.0%	0	0.00%	0	0.00%
OU – Other	44.6	0.5%	19.6	0.20%	33.2	0.60%
<b>Total</b>	<b>8,224.7</b>	<b>100%</b>	<b>9,506.60</b>	<b>100.00%</b>	<b>5,160.00</b>	<b>100.00%</b>

## Environmental Indicators

	2021	2020	2019
<b>Waste generation and treatment</b>			
<b>Emission</b>			
Annual volume of greenhouse gases (CO <sub>2</sub> , CH <sub>4</sub> , N <sub>2</sub> O, HFC, PFC, SF <sub>6</sub> ) emitted into the atmosphere (in tons of CO <sub>2</sub> equivalent)	800.4	3,173.00	2,303.20
Annual emissions of ozone depleting gases (in tons of CFC equivalent)	11,946.0	9,412.00	5.4
<b>Effluent</b>			
Total water discharge by quality and destination (m <sup>3</sup> /year)	106,695.0	104,984.90	114,380.00
River (m <sup>3</sup> /year)	0	NA	NA
Wastewater Treatment Plant (m <sup>3</sup> /year)	106,695.0	104,984.90	114,380.00
Municipal sanitation company (m <sup>3</sup> /year)	0	NA	NA
<b>Solids</b>			
Annual quantity (in tons) of solid waste generated (garbage, waste, rubble etc.)	193	111	117
Amount of PCB contaminated waste (ascarel) destined (kg)	0	5,631.00	0
<b>Use of resources in the production process and management processes of the organization</b>			
<b>Total energy consumption by source (GJ)</b>			
Non-renewable fuels (GJ)	<b>5,479.8</b>	<b>5,186.00</b>	<b>5,148.90</b>
Diesel (GJ)	5,314.8	4,987.20	4,797.40
Gasoline (GJ)	2,462.9	2,378.90	1,665.40
Natural gas (GJ)	2,358.4	2,336.70	2,870.60
Other – Emergency auxiliary group (diesel replacement) (GJ)	NA	NA	0
Other – Emergency auxiliary group (diesel replacement) (GJ)	493.5	271.5	261.4
Renewable fuels (GJ)	61.9	58.6	227.5
Ethanol (GJ)	61.9	58.6	227.5
Electricity (GJ)	103.1	140.3	124
Electric power sold (GJ)	29,225,160	31,191,120	31,082,760
Energy consumption per GJ sold (GJ)	0.0001875	0.0001663	0.0001657
<b>Total water consumption by source (m<sup>3</sup>)</b>			
Supply (public network) (m <sup>3</sup> )	<b>133,494</b>	<b>131,357</b>	<b>143,109</b>
Underground source (well) (m <sup>3</sup> )	0	ND	ND
Surface catchment (watercourses) (m <sup>3</sup> )	133,369	131,231	142,975
Bottled mineral water (human consumption) (m <sup>3</sup> )	0	NA	ND
Bottled mineral water (human consumption) (m <sup>3</sup> )	125	126	134
Total water consumption per employee (m <sup>3</sup> )	433.42	419.7	498.6
<b>Environmental education and awareness</b>			
<b>Environmental education – In the organization</b>			
Number of employees trained in environmental education programs	0	0	0
Percentage of employees trained in environmental education programs/total employees	0%	0%	0%
Number of hours of environmental training/total hours of training	0.0	0.00%	0.00%
<b>Environmental Education – Community</b>			
Number of elementary and high school units served	0	0	10
Number of students served	0	0	720
Number of trained teachers	0	0	0
Number of technical and higher education units served	0	0	0
Number of students served	0	0	0
Resources invested (R\$ thousand)	0	0	ND



## Performance indicators

	2021	2020	2019
Power consumption of generating and auxiliary units (kWh)	51,158,283	35,128,120	27,189,235
Water consumption per kWh generated (maximum flow consumption (m <sup>3</sup> /s) per kWh delivered)	ND	ND	ND
Restoration of riparian forest (hectares)	30	25	20
Rescue of fish in turbines (kg)	670	862	751
Restocking of fish (number of fry)	1,502,000	1,660,300	1,667,600
Lubricant and hydraulic oil leakage in turbines (m <sup>3</sup> /year)	0	0.05	0
Recovery of areas degraded by the extraction of coal and its waste generated (recovered area unit – hectares per year)	NA	NA	NA
Recovery of areas degraded by the extraction of coal and its waste generated (commitment of resources in recovery and preservation projects) (R\$/year)	NA	NA	NA
Replacement water consumption during generation (m <sup>3</sup> /MWh)	NA	NA	NA

## Rio Canoas Energia

### Operational and Productivity Indicators

Technical data (inputs, production capacity, sales, losses)	2021	2020	2019
Energy generated (GWh)	532.9	358.7	621.5
Energy sold (GWh) <sup>1</sup>	696.0	599.7	812.9
Installed capacity (MW)	191.9	191.9	191.9

1. It considers quotas and sales contracts and does not consider Short Term Trading (MCP) and Energy Reallocation Mechanisms (MRE).

### Governance Indicators

Governance – Managers	2021				2020				2019			
	BD	EB	FC <sup>1</sup>	Total	BD	EB	FC <sup>1</sup>	Total	BD	EB	FC <sup>1</sup>	Total
Number of members	0	3	0	3	4	3	0	7	4	3	0	7
Number of paid members	0	0	0	0	0	0	0	0	0	0	0	0
<b>Annual fixed remuneration (R\$ thousand)</b>												
Salary or pro-labore	0	0	0	0	0	0	0	0	0	0	0	0
Direct or indirect benefits	0	0	0	0	0	0	0	0	0	0	0	0
Committee participations	0	0	0	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0	0	0	0
<b>Variable remuneration (R\$ thousand)</b>												
Bonus	0	0	0	0	0	0	0	0	0	0	0	0
Profit sharing	0	0	0	0	0	0	0	0	0	0	0	0
Participation in meetings	0	0	0	0	0	0	0	0	0	0	0	0
Committees	0	0	0	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0	0	0	0
Post-employment	0	0	0	0	0	0	0	0	0	0	0	0
Termination of office	0	0	0	0	0	0	0	0	0	0	0	0
Stock-based	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total remuneration</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

BD: Board of Directors | EB: Executive Board | FC: Fiscal Council

1. There is no Fiscal Council installed.



## Economic and Financial Indicators

<b>Wealth Generation – Value Added Statement (R\$ thousand)</b>	<b>2021</b>	<b>2020</b>	<b>2019</b>
<b>Revenues</b>	<b>158,525</b>	<b>127,374</b>	<b>168,033</b>
Energy sales and services	158,525	127,374	168,033
<b>Inputs purchased from third parties</b>	<b>(63,738)</b>	<b>(39,955)</b>	<b>(113,365)</b>
Purchased energy and network usage charges	(51,619)	(22,854)	(72,194)
Third party materials and services	(12,968)	(16,768)	(16,039)
Other operational costs	849	(333)	(25,132)
<b>Gross value added</b>	<b>94,787</b>	<b>87,419</b>	<b>54,668</b>
Depreciation and amortization	(31,453)	(35,357)	(42,815)
<b>Valor adicionado líquido produzido pela entidade</b>	<b>63,334</b>	<b>52,062</b>	<b>11,853</b>
<b>Value added received in transfer</b>	<b>5,063</b>	<b>2,686</b>	<b>2,689</b>
Other financial revenues	5,063	2,686	2,689
<b>Total value added to be distributed</b>	<b>68,397</b>	<b>54,748</b>	<b>14,542</b>

<b>Distribution of value added (R\$ thousand)</b>	<b>2021</b>	<b>2020</b>	<b>2019</b>
<b>Staff</b>	<b>3,710</b>	<b>3,579</b>	<b>3,346</b>
Direct remuneration	2,173	2,167	2,031
Benefits	1,131	1,078	936
FGTS	200	167	192
Profit sharing	206	167	187
<b>Government – Taxes, fees and contributions</b>	<b>13,228</b>	<b>7,925</b>	<b>-7,505</b>
Federal	10,398	5,887	-10,851
State	2	47	0
Municipal	2,828	1,991	3,346
<b>Financiers – Remuneration of third-party capital</b>	<b>23,034</b>	<b>27,133</b>	<b>31,794</b>
Rentals	9	35	43
Other financial expenses	23,025	27,098	31,751
<b>Shareholders – Return on equity</b>	<b>28,425</b>	<b>16,111</b>	<b>-13,093</b>
Interest on equity capital	0	0	0
Dividends	6,751	3,826	0
Retained earnings/loss for the year	21,674	12,285	-13,093
<b>Value Added Distributed (total)</b>	<b>68,397</b>	<b>54,748</b>	<b>14,542</b>

<b>Investments (R\$ thousand)</b>	<b>2021</b>	<b>2020</b>	<b>2019</b>
Maintenance	3,577	6,542	4,364
Other	554	1,184	1,036
<b>Total</b>	<b>4,131</b>	<b>7,726</b>	<b>5,400</b>

## Internal Social Indicators

Employees/employability/managers	2021	2020	2019
<b>a) General information</b>			
Total number of employees	25	26	27
Number of contractors (contractors, subcontractors, freelancers) by employment type, employment contract and region	17	20	10
Employees up to 30 years old (%)	48%	53.80%	74.10%
Employees aged between 31 and 40 (%)	48%	42.30%	22.20%
Employees aged between 41 and 50 (%)	0.0%	3.80%	3.70%
Employees aged over 50 (%)	4.0%	0.00%	0.00%
Women in relation to total employees (%)	12.0%	7.70%	14.80%
Women in managerial positions – in relation to total managerial positions (%)	0.0%	0.00%	0.00%
Black female employees in relation to total female employees (%)	8.0%	0.00%	0.00%
Black male employees in relation to total male employees (%)	12.0%	15.40%	18.50%
Black (black and mixed race) employees in managerial positions in relation to total managerial positions (%)	0.0%	0.00%	0.00%
Interns in relation to total employees (%)	0.0%	0.00%	0.00%
Employees of the apprentice hiring program (No.)	0	0	0
Employees with disabilities (No.)	0	0	0
<b>b) Remuneration, benefits and career (R\$ thousand)</b>			
<b>Remuneration</b>			
Gross payroll	3,510	3,382	3,861
Compulsory social charges	765	672	708
<b>Benefits</b>			
Education	31	34	20
Food	356	354	326
Transportation	266	298	197
Health	270	291	284
Foundation (private pension)	25	26	21
Safety and occupational medicine	57	32	29
Culture	0	0	0
Training and professional development	69	18	49
Day care or day care allowance	0	0	0
Employee profit-sharing	206	167	187
Other (housing, life insurance, gift voucher)	26	26	9
<b>c) Profit-sharing</b>			
Total investment in the company's profit-sharing program (R\$ thousand)	206	167	187
Distributed values in relation to gross payroll (%)	5.9%	4.9%	4.8%
Division of the highest remuneration for the lowest remuneration paid by the one granted	5.79	7.3	6.95
Division of the company's lowest remuneration by the minimum wage in force	2.03	1.52	1.57
<b>d) Remuneration profile – average salary in the current year (R\$)</b>			
Board positions	0	0	0
Managerial positions	12,934	11,621	10,863
Administrative positions	3,585	2,630	2,652
Production positions	3,329	2,973	2,818



## Internal Social Indicators

Employees/employability/managers	2021	2020	2019
<b>e) Health and safety</b>			
Average overtime per employee/year	171.7	96.7	111.5
Total company TF (frequency rate) index in the period, for employees	0	0	0
TG index (severity rate) in the period, for employees	0	0	0
Total company TF (frequency rate) index in the period, for subcontractors/contractors	0	0	0
TG index (severity rate) in the period, for subcontractors/contractors	0	0	0
TF index (frequency rate) of the company in the period for the workforce (own + third parties)	0	0	0
TG index (severity rate) in the period for the workforce (own + third parties)	0	0	0
Deaths – own	0	0	0
Deaths – third parties	0	0	0
Lost day rate for employees <sup>1</sup>	0	0	0
Absenteeism rate	0	0	0
<b>f) Professional development</b>			
Elementary school (% over total employees)	0.00%	0.00%	0.00%
High school (% over total employees)	64.0%	69.20%	81.50%
Technical instruction (% over total employees)	20.0%	15.40%	3.70%
Tertiary education (% over total employees)	12.0%	11.50%	11.10%
Postgraduate – specialization, master's, doctorate (% over total employees)	4.0%	3.80%	3.70%
Amount invested in professional development and education (R\$ thousand)	132	52	69
<b>Average hours of training per employee, broken down by functional category</b>			
Executive Board	0.0	0.0	0.0
Management	111.3	30.5	65.0
Administrative	67.0	34.8	32.7
Operational	127.8	52.7	100.1
Total training hours per employee/year	102.0	30.8	46.6
<b>g) Behavior in the face of dismissals</b>			
Number of employees at the end of the period	25	26	27
Number of admissions during the period	4	3	1
Turnover rate	19.7%	16.10%	7.10%
<b>Labor complaints</b>			
Amount provisioned in the period (R\$ million)	0.0	0.0	0.2
Number of labor lawsuits filed against the company in the period	0	3	0
Number of labor lawsuits found to be justified in the period	0	0	0
Number of labor lawsuits found to be unfounded in the period	0	0	6
Total amount of indemnities and fines paid for the period (R\$ thousand)	0	0	111
<b>h) Preparation for retirement</b>			
Investments in supplementary pension (R\$ thousand)	0	26	21
Number of beneficiaries of the supplementary pension program	0	25	26

1. In this case, lost days are considered only absences for accidents and occupational diseases.

## External Social Indicators

Communities	2021	2020	2019
<b>Health and safety impacts</b>			
Total number of accidents without deaths in the population	0	0	0
Total number of deaths in the population	0	0	0
Lawsuits arising out of accidents with the population – General Litigation Basis	0	0	0
<b>Company involvement with social action</b>			
Resources invested in education (R\$ thousand)	0	0	0
Resources invested in health and sanitation (R\$ thousand)	0	0	0
Resources invested in culture (R\$ thousand)	0	0	0
Resources invested in sports (R\$ thousand)	0	0	0
Other resources invested in social actions (R\$ thousand)	0	0	0
Employees carrying out volunteer work in the community outside the company/total employees (%)	NA	NA	0
Quantity of monthly hours donated (released from normal working hours) by the company for voluntary employee work	0	0	0
<b>Involvement of the company in cultural, sports and social projects (Rouanet Law, Sports Incentive Law, Pronon, Pronas, Childhood and Adolescence Fund, Elderly Fund)</b>			
Amount of resources allocated to projects (R\$ thousand)	0	0	0
Number of projects benefited	0	0	0
Amount of resources allocated to the largest project (R\$ thousand)	0	0	0
Project name	NA	NA	NA
Proposer	NA	NA	NA

## Electrical Sector Indicators

Resources applied in technological and scientific research and development by research theme (Manual of Research and Development – Aneel)	2021		2020		2019	
	Value (R\$ thd)	%	Value (R\$ thd)	%	Value (R\$ thd)	%
FA – Alternative Sources of Electric Power Generation	0	0.0%	0	0.00%	0	0.00%
GT – Thermoelectric Generation	0	0.0%	0	0.00%	0	0.00%
GB – Basin and Reservoir Management	1,068.6	81.7%	638.5	73.80%	0	0.00%
MA – Environment	234.4	17.9%	206.9	23.90%	525.1	62.10%
SE – Safety	0	0.0%	0	0.00%	0	0.00%
EF – Energy Efficiency	0	0.0%	0	0.00%	0	0.00%
PL – Electric Power Systems Planning	0	0.0%	4.8	0.60%	315.7	37.30%
OP – Electric Power Systems Operation	0	0.0%	0	0.00%	0	0.00%
SC – Supervision, Control and Protection of Electrical Power Systems	0	0.0%	0	0.00%	0	0.00%
QC – Quality and Reliability of Electric Power Services	0	0.0%	0	0.00%	0	0.00%
MF – Measuring, Billing and Combating Trade Losses	0	0.0%	0	0.00%	0	0.00%
OU – Other	4.7	0.4%	15	1.70%	4.8	0.60%
<b>Total</b>	<b>1,307.7</b>	<b>100%</b>	<b>865.2</b>	<b>100.00%</b>	<b>845.6</b>	<b>100.00%</b>



## Environmental Indicators

	2021	2020	2019
<b>Waste generation and treatment</b>			
<b>Emission</b>			
Annual volume of greenhouse gases (CO <sub>2</sub> , CH <sub>4</sub> , N <sub>2</sub> O, HFC, PFC, SF <sub>6</sub> ) emitted into the atmosphere (in tons of CO <sub>2</sub> equivalent)	96.1	66.1	95.5
Annual emissions of ozone depleting gases (in tons of CFC equivalent)	0	0	0
<b>Effluent</b>			
Total water discharge by quality and destination (m <sup>3</sup> /year)	0	0	ND
River (m <sup>3</sup> /year)	NA	NA	ND
Wastewater Treatment Plant (m <sup>3</sup> /year)	NA	ND	ND
Municipal sanitation company (m <sup>3</sup> /year)	NA	NA	NA
<b>Solids</b>			
Annual quantity (in tons) of solid waste generated (garbage, waste, rubble etc.)	1.8	40.5	19.5
Amount of PCB contaminated waste (ascarel) destined (kg)	0	NA	NA
<b>Use of resources in the production process and management processes of the organization</b>			
<b>Total energy consumption by source (GJ)</b>			
Non-renewable fuels (GJ)	825.1	2,831.80	410.7
Diesel (GJ)	269.8	289.5	263
Gasoline (GJ)	2.0	8.4	11.4
Natural gas (GJ)	NA	NA	0
Other – Emergency auxiliary group (diesel replacement) (GJ)	552.4	497	106.5
Renewable fuels (GJ)	0	1	0
Ethanol (GJ)	0	1	0
Electricity (GJ)	1.0	2,035.90	29.8
Electric power sold (GJ)	2,505,600	2,158,920	2,252,392
Energy consumption per GJ sold (GJ)	0.000329	0.001312	0.000182
<b>Total water consumption by source (m<sup>3</sup>)</b>			
Supply (public network) (m <sup>3</sup> )	NA	NA	NA
Underground source (well) (m <sup>3</sup> )	1,322	482	2,447
Surface catchment (watercourses) (m <sup>3</sup> )	NA	NA	NA
Bottled mineral water (human consumption) (m <sup>3</sup> )	11	5	6
Total water consumption per employee (m <sup>3</sup> )	53.32	18.73	90.85
<b>Environmental education and awareness</b>			
<b>Environmental education – In the organization</b>			
Number of employees trained in environmental education programs	0	26	26
Percentage of employees trained in environmental education programs/total employees	0	100%	80%
Number of hours of environmental training/total hours of training	0	ND	ND
<b>Environmental Education – Community</b>			
Number of elementary and high school units served	0	0	4
Number of students served	0	0	250
Number of trained teachers	0	0	10
Number of technical and higher education units served	0	0	2
Number of students served	0	0	205
Resources invested (R\$ thousand)	0	0	ND

## Performance indicators

	2021	2020	2019
Power consumption of generating and auxiliary units (kWh)	1,431,030	1,445,790	2,153,542
Water consumption per kWh generated (maximum flow consumption (m <sup>3</sup> /s) per kWh delivered)	ND	ND	ND
Restoration of riparian forest (hectares)	6.3	2	20
Rescue of fish in turbines (kg)	0	0	5
Restocking of fish (number of fry)	NA	NA	NA
Lubricant and hydraulic oil leakage in turbines (m <sup>3</sup> /year)	0	0.07	0
Recovery of areas degraded by the extraction of coal and its waste generated (recovered area unit – hectares per year)	NA	NA	NA
Recovery of areas degraded by the extraction of coal and its waste generated (commitment of resources in recovery and preservation projects) (R\$/year)	NA	NA	NA
Replacement water consumption during generation (m <sup>3</sup> /MWh)	NA	NA	NA



## Rio Verde Energia

### Operational and Productivity Indicators

Technical data (inputs, production capacity, sales, losses)	2021	2020	2019
Energy generated (GWh)	471.1	478.2	622.1
Energy sold (GWh) <sup>1</sup>	675.9	560.4	570
Installed capacity (MW)	116.0	116	116

1. It considers quotas and sales contracts and does not consider Short Term Trading (MCP) and Energy Reallocation Mechanisms (MRE).

### Governance Indicators

Governance – Managers	2021				2020				2019			
	BD	EB	FC <sup>1</sup>	Total	BD	EB	FC <sup>1</sup>	Total	BD	EB	FC <sup>1</sup>	Total
Number of members	0	3	0	3	4	3	0	7	4	3	0	7
Number of paid members	0	0	0	0	0	0	0	0	0	0	0	0
<b>Annual fixed remuneration (R\$ thousand)</b>												
Salary or pro-labore	0	0	0	0	0	0	0	0	0	0	0	0
Direct or indirect benefits	0	0	0	0	0	0	0	0	0	0	0	0
Committee participations	0	0	0	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0	0	0	0
<b>Variable remuneration (R\$ thousand)</b>												
Bonus	0	0	0	0	0	0	0	0	0	0	0	0
Profit sharing	0	0	0	0	0	0	0	0	0	0	0	0
Participation in meetings	0	0	0	0	0	0	0	0	0	0	0	0
Committees	0	0	0	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0	0	0	0
Post-employment	0	0	0	0	0	0	0	0	0	0	0	0
Termination of office	0	0	0	0	0	0	0	0	0	0	0	0
Stock-based	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total remuneration</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

BD: Board of Directors | EB: Executive Board | FC: Fiscal Council

1. There is no Fiscal Council installed.

## Economic and Financial Indicators

<b>Wealth Generation – Value Added Statement (R\$ thousand)</b>	<b>2021</b>	<b>2020</b>	<b>2019</b>
<b>Revenues</b>	<b>218,313</b>	<b>199,469</b>	<b>187,958</b>
Energy sales and services	218,313	199,469	187,958
<b>Inputs purchased from third parties</b>	<b>(104,975)</b>	<b>(29,076)</b>	<b>(86,077)</b>
Purchased energy and network usage charges	(227,008)	(47,423)	(44,561)
Third party materials and services	(10,692)	(13,771)	(12,563)
Other operational costs	132,725	32,118	(28,953)
<b>Gross value added</b>	<b>113,338</b>	<b>170,393</b>	<b>101,881</b>
Depreciation and amortization	(15,529)	(19,833)	(19,478)
<b>Net added value produced</b>	<b>97,809</b>	<b>150,560</b>	<b>82,403</b>
<b>Value added received in transfer</b>	<b>3,390</b>	<b>2,780</b>	<b>7,945</b>
Other financial revenues	3,390	2,780	7,945
<b>Total value added to be distributed</b>	<b>101,199</b>	<b>153,340</b>	<b>90,348</b>

<b>Distribution of value added (R\$ thousand)</b>	<b>2021</b>	<b>2020</b>	<b>2019</b>
<b>Staff</b>	<b>3,482</b>	<b>3,617</b>	<b>1,976</b>
Direct remuneration	2,020	2,208	1,450
Benefits	1,138	1,134	990
FGTS	157	161	118
Profit sharing	167	114	-582
<b>Government – Taxes, fees and contributions</b>	<b>23,845</b>	<b>28,596</b>	<b>18,015</b>
Federal	21,344	25,943	14,651
State	2	0	0
Municipal	2,499	2,653	3,364
<b>Financiers – Remuneration of third-party capital</b>	<b>19,024</b>	<b>52,547</b>	<b>29,975</b>
Rentals	9	8	17
Other financial expenses	19,015	52,539	29,958
<b>Shareholders – Return on equity</b>	<b>54,848</b>	<b>68,580</b>	<b>40,382</b>
Interest on equity capital	0	6,331	12,501
Dividends	13,055	10,000	
Retained earnings/loss for the year	41,793	52,249	27,881
<b>Value Added Distributed (total)</b>	<b>101,199</b>	<b>153,340</b>	<b>90,348</b>

<b>Investments (R\$ thousand)</b>	<b>2021</b>	<b>2020</b>	<b>2019</b>
Maintenance	20,804	5,592	2,341
Other	507	0	0
<b>Total</b>	<b>21,311</b>	<b>5,592</b>	<b>2,341</b>

## Internal Social Indicators

Employees/employability/managers	2021	2020	2019
<b>a) General information</b>			
Total number of employees	21	27	20
Number of contractors (contractors, subcontractors, freelancers) by employment type, employment contract and region	17	13	9
Employees up to 30 years old (%)	42.9%	50.00%	50.00%
Employees aged between 31 and 40 (%)	47.6%	50.00%	50.00%
Employees aged between 41 and 50 (%)	9.5%	0.00%	0.00%
Employees aged over 50 (%)	0.0%	0.00%	0.00%
Women in relation to total employees (%)	9.5%	9.10%	10.00%
Women in managerial positions – in relation to total managerial positions (%)	0.0%	0.00%	0.00%
Black female employees in relation to total female employees (%)	0.0%	0.00%	0.00%
Black male employees in relation to total male employees (%)	19.0%	13.60%	15.00%
Black (black and mixed race) employees in managerial positions in relation to total managerial positions (%)	0.0%	0.00%	0.00%
Interns in relation to total employees (%)	0.0%	0.00%	0.00%
Employees of the apprentice hiring program (No.)	0	0	0
Employees with disabilities (No.)	0	0	0
<b>b) Remuneration, benefits and career (R\$ thousand)</b>			
<b>Remuneration</b>			
Gross payroll	3,324	3,480	2,377
Compulsory social charges	697	706	519
<b>Benefits</b>			
Education	8	18	18
Food	291	289	269
Transportation	472	500	404
Health	200	229	203
Foundation (private pension)	21	29	15
Safety and occupational medicine	49	39	33
Culture	0	0	0
Training and professional development	73	13	45
Day care or day care allowance	0	0	0
Employee profit-sharing	167	139	-582
Other (housing, life insurance, gift voucher)	22	17	3
<b>c) Profit-sharing</b>			
Total investment in the company's profit-sharing program (R\$ thousand)	167	139	-582
Distributed values in relation to gross payroll (%)	5.0%	4.0%	-24.5%
Division of the highest remuneration for the lowest remuneration paid by the one granted	6.44	5.91	1.85
Division of the company's lowest remuneration by the minimum wage in force	2.03	1.98	2.03
<b>d) Remuneration profile – average salary in the current year (R\$)</b>			
Board positions	0	0	0
Managerial positions	14,400	12,226	0
Administrative positions	2,933	2,260	2,576
Production positions	3,099	2,826	2,706



## Internal Social Indicators

Employees/employability/managers	2021	2020	2019
<b>e) Health and safety</b>			
Average overtime per employee/year	209.9	103.3	147.7
Total company TF (frequency rate) index in the period, for employees	0	0	0
TG index (severity rate) in the period, for employees	0	0	0
Total company TF (frequency rate) index in the period, for subcontractors/contractors	0	0	0
TG index (severity rate) in the period, for subcontractors/contractors	0	0	0
TF index (frequency rate) of the company in the period for the workforce (own + third parties)	0	0	0
TG index (severity rate) in the period for the workforce (own + third parties)	0	0	0
Deaths – own	0	0	0
Deaths – third parties	0	0	0
Lost day rate for employees <sup>1</sup>	0	0	0
Absenteeism rate	0	0	0
<b>f) Professional development</b>			
Elementary school (% over total employees)	0.0%	0.00%	0.00%
High school (% over total employees)	61.9%	72.70%	85.00%
Technical instruction (% over total employees)	19.0%	13.60%	5.00%
Tertiary education (% over total employees)	14.3%	9.10%	10.00%
Postgraduate – specialization, master's, doctorate (% over total employees)	4.8%	4.50%	0.00%
Amount invested in professional development and education (R\$ thousand)	82	32	63
<b>Average hours of training per employee, broken down by functional category</b>			
Executive Board	0.0	0	0
Management	88.9	64	12.7
Administrative	54.0	24.5	7.2
Operational	136.0	47.2	0
Total training hours per employee/year	93.0	45.2	7.7
<b>g) Behavior in the face of dismissals</b>			
Number of employees at the end of the period	21	27	20
Number of admissions during the period	2	3	4
Turnover rate	4.8%	0.00%	20.00%
<b>Labor complaints</b>			
Amount provisioned in the period (R\$ million)	0	0	0
Number of labor lawsuits filed against the company in the period	0	0	0
Number of labor lawsuits found to be justified in the period	0	0	3
Number of labor lawsuits found to be unfounded in the period	0	0	1
Total amount of indemnities and fines paid for the period (R\$ thousand)	0	157	954
<b>h) Preparation for retirement</b>			
Investments in supplementary pension (R\$ thousand)	21	29	15
Number of beneficiaries of the supplementary pension program	17	17	26

1. In this case, lost days are considered only absences for accidents and occupational diseases.

## External Social Indicators

Communities	2021	2020	2019
<b>Health and safety impacts</b>			
Total number of accidents without deaths in the population	0	0	0
Total number of deaths in the population	0	0	0
Lawsuits arising out of accidents with the population – General Litigation Basis	0	0	0
<b>Company involvement with social action</b>			
Resources invested in education (R\$ thousand)	0	176	18
Resources invested in health and sanitation (R\$ thousand)	0	203	182
Resources invested in culture (R\$ thousand)	0	266	400
Resources invested in sports (R\$ thousand)	0	105	100
Other resources invested in social actions (R\$ thousand)	0	0	0
Employees carrying out volunteer work in the community outside the company/total employees (%)	0	NA	40%
Quantity of monthly hours donated (released from normal working hours) by the company for voluntary employee work	0	0	4
<b>Involvement of the company in cultural, sports and social projects (Rouanet Law, Sports Incentive Law, Pronon, Pronas, Childhood and Adolescence Fund, Elderly Fund)</b>			
Amount of resources allocated to projects (R\$ thousand)	0	750	700
Number of projects benefited	0	4	5
Amount of resources allocated to the largest project (R\$ thousand)	0	450	400
Project name	-	Piquenique Literário do Ler é uma Viagem	My Dream
Proposer	-	Élida Marques Produções Artísticas Ltda	DellArte

## Electrical Sector Indicators

Resources applied in technological and scientific research and development by research theme (Manual of Research and Development – Aneel)	2021		2020		2019	
	Value (R\$ thd)	%	Value (R\$ thd)	%	Value (R\$ thd)	%
FA – Alternative Sources of Electric Power Generation	0	0.0%	0	0.00%	0	0.00%
GT – Thermoelectric Generation	0	0.0%	0	0.00%	0	0.00%
GB – Basin and Reservoir Management	0	0.0%	0	0.00%	0	0.00%
MA – Environment	176.9	31.4%	479.4	33.10%	987.8	52.80%
SE – Safety	0	0.0%	0	0.00%	0	0.00%
EF – Energy Efficiency	0	0.0%	0	0.00%	0	0.00%
PL – Electric Power Systems Planning	345.4	61.3%	963.6	66.50%	879.1	47.00%
OP – Electric Power Systems Operation	0	0.0%	0	0.00%	0	0.00%
SC – Supervision, Control and Protection of Electrical Power Systems	0	0.0%	0	0.00%	0	0.00%
QC – Quality and Reliability of Electric Power Services	0	0.0%	0	0.00%	0	0.00%
MF – Measuring, Billing and Combating Trade Losses	0	0.0%	0	0.00%	0	0.00%
OU – Other	40.8	7.2%	6.8	0.50%	5	0.30%
<b>Total</b>	<b>563.1</b>	<b>100%</b>	<b>1,449.80</b>	<b>100%</b>	<b>1,872.00</b>	<b>100%</b>

## Environmental Indicators

	2021	2020	2019
<b>Waste generation and treatment</b>			
<b>Emission</b>			
Annual volume of greenhouse gases (CO <sub>2</sub> , CH <sub>4</sub> , N <sub>2</sub> O, HFC, PFC, SF <sub>6</sub> ) emitted into the atmosphere (in tons of CO <sub>2</sub> equivalent)	65.6	153.2	146.2
Annual emissions of ozone depleting gases (in tons of CFC equivalent)	9.2	0	0
<b>Effluent</b>			
Total water discharge by quality and destination (m <sup>3</sup> /year)	271.8	0	ND
River (m <sup>3</sup> /year)	0	1,123.20	NA
Wastewater Treatment Plant (m <sup>3</sup> /year)	271.8	NA	ND
Municipal sanitation company (m <sup>3</sup> /year)	0	1,123.20	NA
<b>Solids</b>			
Annual quantity (in tons) of solid waste generated (garbage, waste, rubble etc.)	6.6	1.3	ND
Amount of PCB contaminated waste (ascarel) destined (kg)	0	0	ND
<b>Use of resources in the production process and management processes of the organization</b>			
<b>Total energy consumption by source (GJ)</b>			
	<b>417.3</b>	<b>735</b>	<b>313.8</b>
Non-renewable fuels (GJ)	279.0	253.2	310.1
Diesel (GJ)	243.5	217.7	297.6
Gasoline (GJ)	0	0	0
Natural gas (GJ)	0	NA	0
Other – Emergency auxiliary group (diesel replacement) (GJ)	35.5	35.5	12.4
Renewable fuels (GJ)	0	0	3.1
Ethanol (GJ)	0	0	3.1
Electricity (GJ)	138.3	481.9	0.6
Electric power sold (GJ)	2,433,240	2,017,440	2,052,036
Energy consumption per GJ sold (GJ)	0.00017	0.00036	0.00015
<b>Total water consumption by source (m<sup>3</sup>)</b>			
	<b>352</b>	<b>1,417</b>	<b>10,400</b>
Supply (public network) (m <sup>3</sup> )	0	0	0
Underground source (well) (m <sup>3</sup> )	340	1,404	0
Surface catchment (watercourses) (m <sup>3</sup> )	0	NA	0
Bottled mineral water (human consumption) (m <sup>3</sup> )	12	13	10,400
Total water consumption per employee (m <sup>3</sup> )	16.76	52.5	12
<b>Environmental education and awareness</b>			
<b>Environmental education – In the organization</b>			
Number of employees trained in environmental education programs	0	0	0
Percentage of employees trained in environmental education programs/total employees	0%	0%	0%
Number of hours of environmental training/total hours of training	0.00%	0.00%	0.00%
<b>Environmental Education – Community</b>			
Number of elementary and high school units served	0	0	4
Number of students served	0	0	300
Number of trained teachers	0	0	0
Number of technical and higher education units served	0	0	0
Number of students served	0	0	0
Resources invested (R\$ thousand)	0	0	1



## Performance indicators

	2021	2020	2019
Power consumption of generating and auxiliary units (kWh)	1,384,110	1,668,354	1,915,093
Water consumption per kWh generated (maximum flow consumption (m <sup>3</sup> /s) per kWh delivered)	NA	ND	ND
Restoration of riparian forest (hectares)	50	34	102
Rescue of fish in turbines (kg)	0	0	0
Restocking of fish (number of fry)	NA	NA	NA
Lubricant and hydraulic oil leakage in turbines (m <sup>3</sup> /year)	0	0	0
Recovery of areas degraded by the extraction of coal and its waste generated (recovered area unit – hectares per year)	NA	NA	NA
Recovery of areas degraded by the extraction of coal and its waste generated (commitment of resources in recovery and preservation projects) (R\$/year)	NA	NA	NA
Replacement water consumption during generation (m <sup>3</sup> /MWh)	NA	NA	NA

